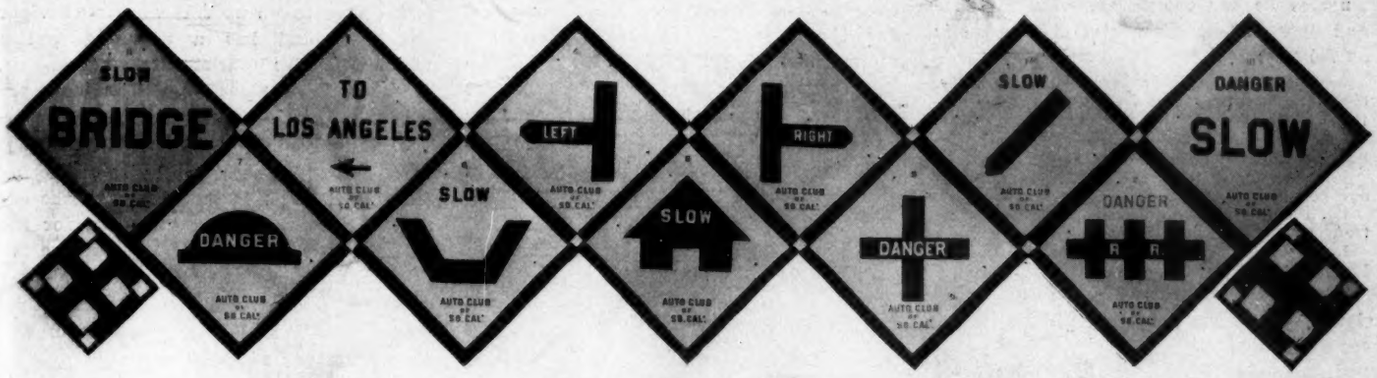
VOL. X NO. 19 CHICAGO, NOVEMBER 8, 1906 $2 00 PER YEAR

MOTOR AGE

SIGN WORK IN SOUTHERN CALIFORNIA

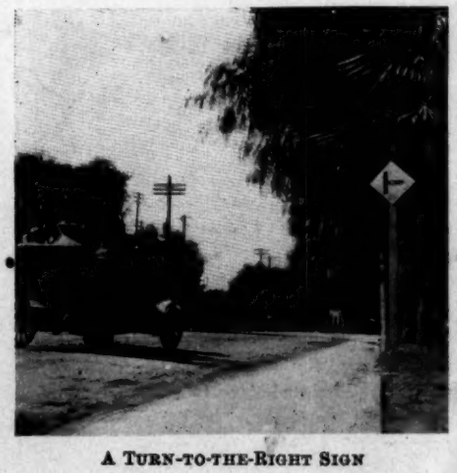


SOME OF THE WARNING SIGNS TO MOTORISTS THAT HAVE BEEN ERECTED IN SOUTHERN CALIFORNIA

THE Automobile Club of Southern California has already expended over $2,000 in emblematic road signs and has contracted for nearly $3,000 worth more. More than twenty different signs are used, following the designs used in Europe. They are mounted on redwood posts standing 10 feet above the ground with pointed top and painted white. The posts are fixed in the ground with cement and are usually placed about 200 yards before coming to the turns or road obstructions, elevations, bumps, dips, etc. These signs were arranged and in part designed by Charles Fuller Gates for the Automobile Club of Southern California, and each sign bears the club's name and its respective number, while each individual post is numbered with stencil and on each post is notice of $100 reward for the capture of anyone defacing or injuring sign or post. The signs themselves are of steel, about 18 inches square, diamond-shape and faced with porcelain enamel. The background is white and the emblems and lettering of blue enamel. They are exceedingly attractive and are appreciated by the general traveling public as well as the motor car users.

The first route marked was the best road from Los Angeles to Riverside, the famous orange metropolis, some 60-odd miles east of the City of the Angels. George Allen Hancock, chairman of the good roads committee of the Automobile Club of Southern California, has charge of this work and was assisted by Mr. Gates in establishing the system in southern California. Mr. Hancock chose and located the best route to Riverside, Santa Monica by-the-sea, Playa del Rey, Venice and Ocean Park. The preferred route from Los Angeles to Long Beach, San Pedro and the harbor town of Wilmington were chosen by Secretary F. W. Flint, Jr., of the automobile club, and President Garland laid out the club's choice of roads to Redondo and Clifftonby-the-Sea.

The most used routes for the winter motoring tourists are the 110-mile run from Los Angeles to the famous mission town of Santa Barbara and the 180-mile inland run from Los Angeles to San Diego. These two routes were left to Mr. Gates, who marked them out for the Automobile Club of Southern California, as he has made a 10-year study of the roads of the southwest and is in charge of the sign board and mile stone work of the highway commission of Los Angeles county. The Santa Barbara run is usually through Cahuenga valley and pass, then up the San Fernando valley to the Calabasas chalk hills and over the mountains there to Conejo country, crossing the Hueneme mountains by Conejo pass, then across the great bean-producing valley of the Santa Clara, which contains the shire town of Ventura, the old mission town of Santa Buena Ventura. There are three routes to Ventura, but the one described is the most popular and runs in a general western direction all the way, with no big grades and usually over good roads and for three-quarters of the 80 miles there are no railroads and no rivers to cross.



A TURN-TO-THE-RIGHT SIGN

The only route for motor cars between Ventura and Santa Barbara at present is through that masterpiece of nature, Casitas pass. It is worth crossing the continent to see. There are two passes in the Casitas, the east and the west, and several hills to cross also. All these turns, bends and grades are being carefully placarded with the automobile club's emblematic signs, so that any driver will know just where to drive with care and where he can speed-up safely. A new

ONE OF THE DANGER SIGNS

emblem is used here to indicate the double turns. The routes out from Los Angeles so far completed, with distance and approximate number of signs used is as follows:

Los Angeles to Riverside, 67 miles, sixty eight posts, ninety signs, crossing three counties.

Los Angeles to Redondo and Cliffton-by-the Sea, 19 miles, sixty-one posts, eighty signs.

Los Angeles to Long Beach, 24 miles, forty-one posts, seventy signs.

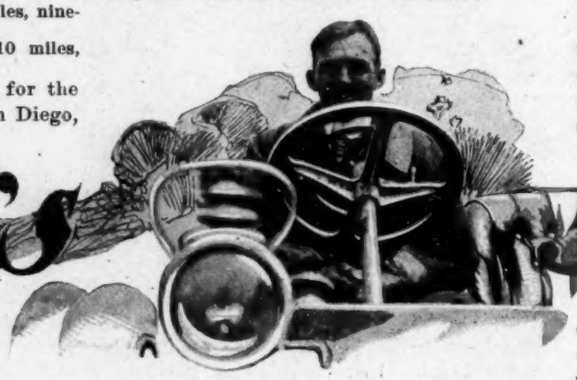
Los Angeles to Santa Monica, 16 miles, nineteen posts, twenty-five signs.

Los Angeles to Santa Barbara, 110 miles, 125 posts, 200 signs.

The route chosen by Mr. Gates for the signs between Los Angeles and San Diego, some 180 miles, is across four counties, and varies in two places from the route used by Mr. Gates in conducting the San Diego endurance run last January. The terrible climb over the Pala grade and to the summit of the range at Valley Center, with a 5-mile drop on the other side, has been avoided by going around through Rainbow, over the new Red Mountain grade and new road to Bonsall and by way of Vista to Escondido. A new bridge is building at Bonsall over the turbulent San Luis Rey river, thus doing away with a ford that was impossible part of each winter. The ford at Pala is bad at any time of the year. The mile of river sand at Pala is also avoided, although the view of old Pala mission is lost, unless a side trip is made from Temecula. The climb over famous Poway pass is also cut out for the new Pensaquitas-Scripps grade around the Poway. This takes the tourists through the great Scripps ranch at Miramar, one of the show places near San Diego. The Scripps have taken to motoring and have built about 50 miles of fine roads on their two ranches.

The American Motor League has been doing in the east what the coast people have been doing in their section, and the activity of President Potter and his associates has resulted in the placing of many signs in the middle and eastern states, particularly around Pittsburg, where the consulate of the A. M. L. has done pioneer work in this direction which is bound to bear fruit. The eastern signs, however, are not as elaborate as the ones out on the coast which are more in keeping with the signs put up in Germany during the Herkomer tour. In the big road races in Europe, too, signs are numerous, and over there they have more than the famous "fifty-seven varieties," there being a sign for every road condition possible. Some of the clubs in the larger American cities have taken up this work with vigor and Cleveland has a complete system which tells the tourist just where he is, although these signs do not indicate the road condition—merely giving the mileage. This placing of signs is a work that ought not to be neglected by the motoring fraternity, for it is the man with the car that derives the greatest benefit, for the native knows the distances. Therefore the example of the Californians comes at a most opportune time and is one that should be followed in all sections of the United States and Canada.

Tom's 5,000



IT IS almost habitual with the motoring fraternity to tell tales of touring hardship, and touring woe that would convince the uninitiated that motoring in this grand country of our is, in the rough but expressive language of Happy Hooligan, "sumpin' fierce." The tale of Tom Fetch's 5,000-mile trip as he relates it is of a different kind. It is a tale of a winding highway that leads through a land of joy; it is a tale of an education that no other travel can duplicate; it is a tale, told in the vernacular, that promises to others a rare pleasure of going that cannot be the right of other than the motorist. The boulevardier says: "There is only one good level road out of town; this is a poor place for motoring." Fetch says: "If you want to tour, hunt for the mountains. Quit pounding the Belgian blocks and wearing out the oozing asphalt. On top of Rough mountain in Pennsylvania the national pike is the roughest spot east of the Mississippi river. In 50,000 miles of touring I have struck only one more wrinkled place and that was in Soldiers' canyon, Utah, on our transcontinental run in that good old one-lung Packard of the past. But here on Rough mountain, where the road is all mussed up with boulders and ruts a foot deep or a foot or more high, and the scenery smells of the hereafter; where the stones pound your front mud guards into a bottom lining for the running boards—there is touring that makes you feel all to the Alleghanies when you think how little are the big stones and hills before the strength of your car. No overcoddled surplus distributer in goggles and a rajah-silk kimona could tour here without feeling the frappe blood in his veins turn to steaming consomme. I toured here, and then, in the language of the immortal Dave, I says: "Old car, old Packard 30, I pins a rose on you. This is going more than less, if not so much as some.'"

Fetch's 5,000 miles began with the Glidden tour. His Packard car was styled "Patrol." He says, as a matter of record, he was the bell boy of the tour—without the gratuities. "Never before," said Tom, "did I realize why my last name is Fetch."

Through New York and over the arduous roads of Canada, back in the United States to make the finish at Bretton Woods, the story of how Tom Fetch and his Packard "Patrol" did double duty and made double mileage in the service of officials, newspaper men and contesting unfortunates is part of the Glidden story told months ago. How he arose at 3:30 at Rangeley Lakes to drive back for a belated party, bringing it to the day's rendezvous for breakfast, and then, after breakfast, remembered having seen, hanging on a post in the stable at Waterville, the missing transmission bearing from the car that had given the trouble, and so drove back 109 miles to get it, making over 300 miles that day, tells but a fraction of the strenuous part Fetch played in that tour. There was always something to be done, someone to be helped, some party to be carried, something to get from somewhere, and Tom did it.

MEETING ON THE WAY

At Bretton Woods, the Glidden tour over, Tom struck out for himself, with just Ben, the tire man, to accompany him in the Packard 30 to Boston. After a night at the Profile house the trip out of the rugged mountains into the smoother and more gardened coast country began, in a steady heavy rain that wet man, car and highway, but did not delay, the crooked streets of Boston being reached that night. Boston had not seen this newest Packard and 6 days were spent in introducing it to the hub. Then again began the making of the 5,000 miles, this time alone. A Sunday quiet ride brought Tom and car to Watch hill, where at his country home Mr. Joy, the Packard manager, listened to the story and showed the story teller that sailing boats requires as much skill as driving motor cars. A diagonal course across Connecticut, south of the Berkshires and leading through rolling, pretty country and over indifferent roads to Peekskill, near the Hudson, and Garrison, on it, was Tuesday's ride. It was not a much-traveled course and told a different story of Cennecticut roads than that repeated after a trip along the main arteries of travel. Tom said of it:

"As I left Peekskill and coasted down hill toward a little village on the Hudson — Garrison, where a ferry starts for West Point—the sky was closing down like a circus tent when the show is over, and I felt very small and very lonesome out among the hills. When the few lights of Garrison began to twinkle between the trees my pulse began beating regular again—like the motor. On the ferry that night I telegraphed for my wife to meet me at Pittsburg. The world is too big a place for one man in a car alone."

From the soldier factory to Philadelphia Tom the next day found he had not the proper license and encountered police traps galore. It rained and his water-logged soul balked at awaiting the pleasure of country constables bent on adding another tag to the already generous supply of state numbers. He rushed it—past a disgruntled policeman at Port Jarvis and right before the eyes of an astonished marshal at Portland. His soul began to dry out in the warm rays of satisfied abandon. No Philadelphia steak matched his appetite that night.

Saturday the Quakers were shown Packard 30 and Sunday there was a 60-mile rush to Atlantic City. New Jersey is a suburb of Philadelphia, and Atlantic City a suburb of New York, and afforded ample opportunity to make up for having skipped the metropolis. Monday another scorch to Philadelphia.

"The rest of that day and the next," relates Tom, "I spent telling and showing sons and daughters of the revolution what makes the wheels go 'round so steadily in a Packard, and then Wednesday at 10 o'clock I started the ascension into the hills. The smoothest way is by Gettysburg and Johnstown, but I took the fluted path straight through. Mr. Godshaw, of Philadelphia, was along on this stage. We rolled and pitched and jumped and swam, but we never stumbled or stopped. Near Turtle creek we came to a fenced-up bridge with a big sign 'Condemned' on it. We tore the fence down and darted over. We found a bridge that had been washed away, and so forded a stream a foot and a half deep. But we reached Pittsburg in a day, as we intended to do."

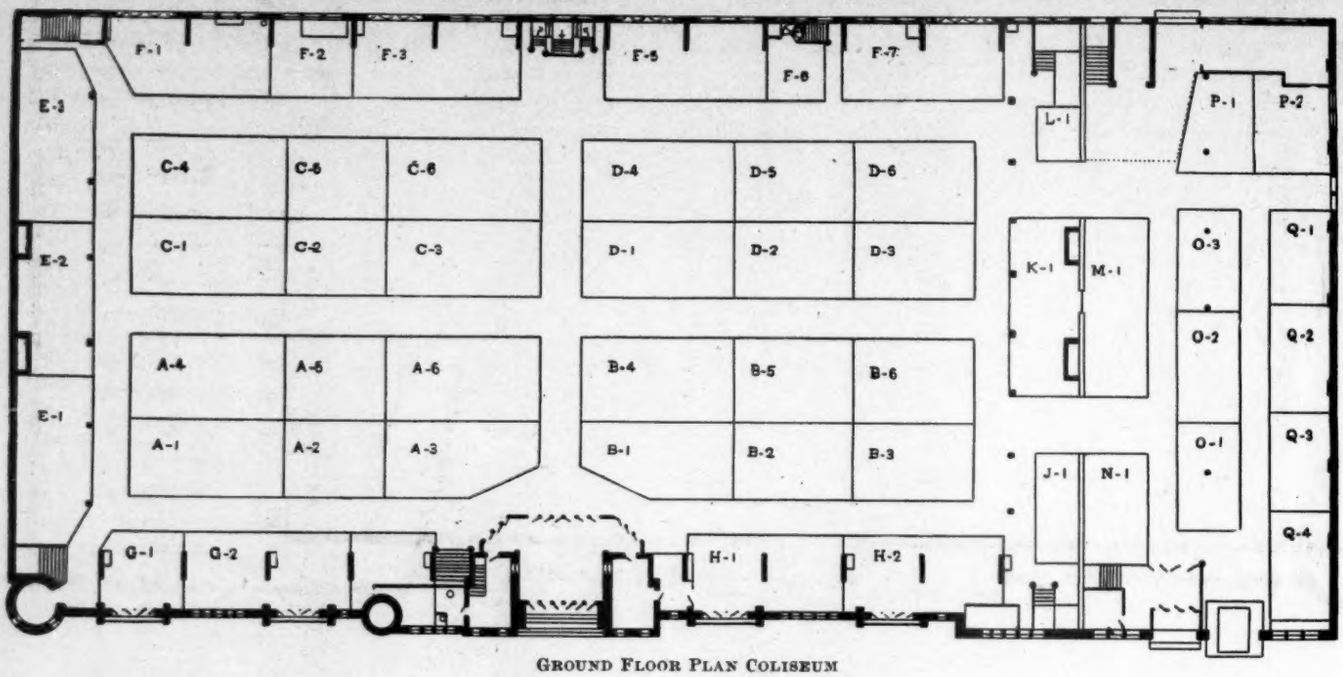
TOM AND SOME OF HIS FRIENDS

After 3 days of demonstrating in Pittsburg, that hilliest but best motoring town west of New York, Tom, with Mrs. Fetch now half of the tour, went through a day of stogie land, rain, tire trouble and gradually lowering altitude to Zanesville. Early the next morning the remaining distance into Columbus was covered. After 2 days more of car demonstration to waiting agents and customers, a day's ride to Cincinnati and a couple more show days, the last lap, or nautically and more expressively, the last leg of the 5,000 was started—northward across Ohio. Through fertile farm land and under skies heavily portentious of a severe drenching, the Packard was driven out of the dirt country into the sand and clay of northern Ohio, just in time to meet a defiant, aggressive rain that turned the way into a winding river of livid-yellow mud. Still it was great fun.

"We riveted on red rubber rain coats, snapped tire chains onto the rear tires and plowed through. We were close to home now. The car had stood worse, and if the car could stand this, why, we could, too," thus Tom explained.

Toledo was reached that night and early in the morning, with the road still wet and slippery, it was but a 3-hour run into Detroit. The 5,000 was in reality 5,200 miles; the motor still purred with the rhythmic beat that had been the reassuring tune of the tour; the car was faced about and sent on a hurry-scurry record-making trip to Chicago, while Tom sighed that his touring days for the nonce were over as he took a gingerly look into the new finishing and testing room at the factory, the scene of his next occupation. Such a trip does not come to the average motorist; it's only the Tom Fetches who bump into a jaunt in which it is a fight all the way with the weather man and the road builders. But Tom is no stranger to this kind of a game and takes to it like the duck in the story goes into the pond. Besides it is a trip like this that enables one to lay up a stock of stories of experiences that comes in mighty handy when the other fellow starts telling of the rough knocks he got when he was out on the road, jumping from town to town like a veritable motoring will o' the wisp, with no given destination—just a-driving and accumulating experiences.

SPACE ALLOTMENTS FOR CHICAGO MOTOR



GROUND FLOOR PLAN COLISEUM

COLISEUM—MAIN FLOOR

A1—Studebaker Automobile Co.
A2—Wayne Automobile Co.
A3—Winton Motor Carriage Co.
A4—J. Stevens Tool & Arms Co.
A5—Waltham Mfg. Co.
A6—Baker Motor Vehicle Co.
B1—Olds Motor Works.
B2—Autocar Co.
B3—Royal Motor Car Co.
B4—Cadillac Motor Car Co.
B5—Babcock Electric Carriage Co.
B6—George N. Pierce Co.
C1—Locomobile Co. of America.
C2—Premier Motor Mfg. Co.
C3—Maxwell-Briscoe Motor Co.
C4—Packard Motor Car Co.
C5—Smith & Mabley Mfg. Co.
C6—E. R. Thomas Motor Co.
D1—H. H. Franklin Mfg. Co.
D2—Corbin Motor Vehicle Corporation.
D3—Haynes Automobile Co.
D4—Peerless Motor Car Co.
D5—Elmore Mfg. Co.
D6—F. B. Sterns Co.
E1—Pope Motor Car Co.
E2—Thomas B. Jeffery & Co.
E3—Apperson Brothers Automobile Co.
F1—National Motor Vehicle Co.
F2—Duryea Power Co.
F3—Electric Vehicle Co.
F4—Entrance to restaurant.
F5—Knox Automobile Co.
F6—St. Louis Motor Carriage Co.
F7—White Sewing Machine Co.
G1—Daimler Mfg. Co.
G2—Pope Mfg. Co.
H1—Dayton Motor Car Co.
H2—Woods Motor Vehicle Co.

COLISEUM—ANNEX

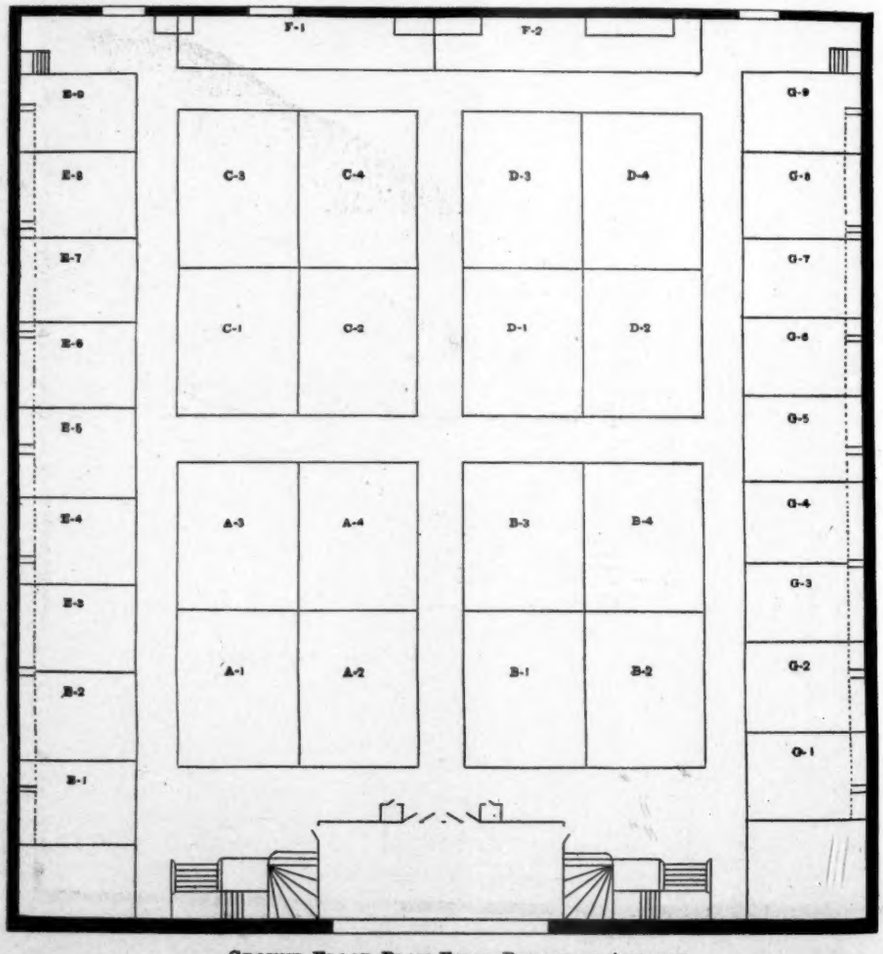
J1—Losier Motor Co.
K1—Mitchell Motor Car Co.
L1—Holsman Automobile Co.
M1—Reo Motor Car Co.
N1—Welch Motor Car Co.
O1—Bartholomew Co.
O2—Grout Bros. Automobile Co.
O3—Northern Motor Car Co.
P1—Maumee Motor Car Works.
P2—Auburn Automobile Co.
Q1—Meteor Automobile Works.
Q2—Columbus Buggy Co.
Q3—Cleveland Motor Car Co.
Q4—Matheson Motor Car Co.

ARMORY—MAIN FLOOR

A1—Buick Motor Car Co.
A2—Rausch & Lang Carriage Co.
A3—Adams Co.
A4—American Locomotive Automobile Co.
B1—Knight & Kilbourne.
B2—Dolson Automobile Co.
B3—Moon Motor Car Co.
B4—Nordyke & Marmon Co.
C1—Oscar Lear Automobile Co.
C2—Rainier & Co.
C3—Smith & Mabley.
C4—Rapid Motor Vehicle Co.
D1—C. H. Blomstrom Motor Co.
D2—St. Louis Car Co.
D3—Jackson Automobile Co.
D4—Aerocar Co.
E1—Western Tool Works.
E2—Evansville Automobile Co.
E3—Monarch Motor Car Co.
E4—Austin Automobile Co.
E5—Buckeye Mfg. Co.
E6—Kissel Motor Car Co.
E7—Logan Construction Co.
E8—Dorris Motor Car Co.
E9—C. A. Tileston & Co.
F1—Dragon Automobile Co.
F2—Palais de l'Automobile.
G1—Motorcar Co.
G2—Wayne Works.
G3—Pierce Engine Co.
G4—Bowman Automobile Co.
G5—Biddle-Murray Mfg. Co.
G6—Harrison Wagon Works.
G7—Simplex Motor Car Co.
G8—Moline Automobile Co.
G9—Star Automobile Co.

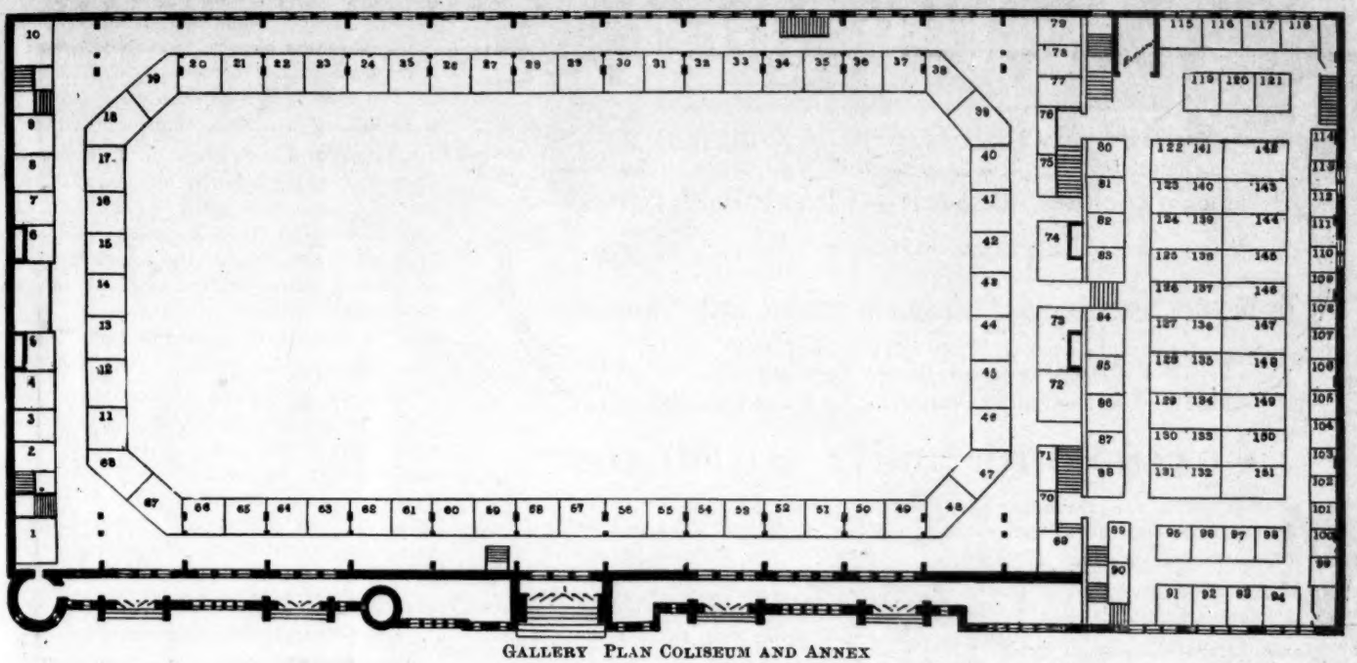
COLISEUM—GALLERY

1—Diezeman Shock Absorber Co.
2, 3, 4—Sprague Umbrella Co.
5—Republic Rubber Co.
6—McGiehan Mfg. Co.



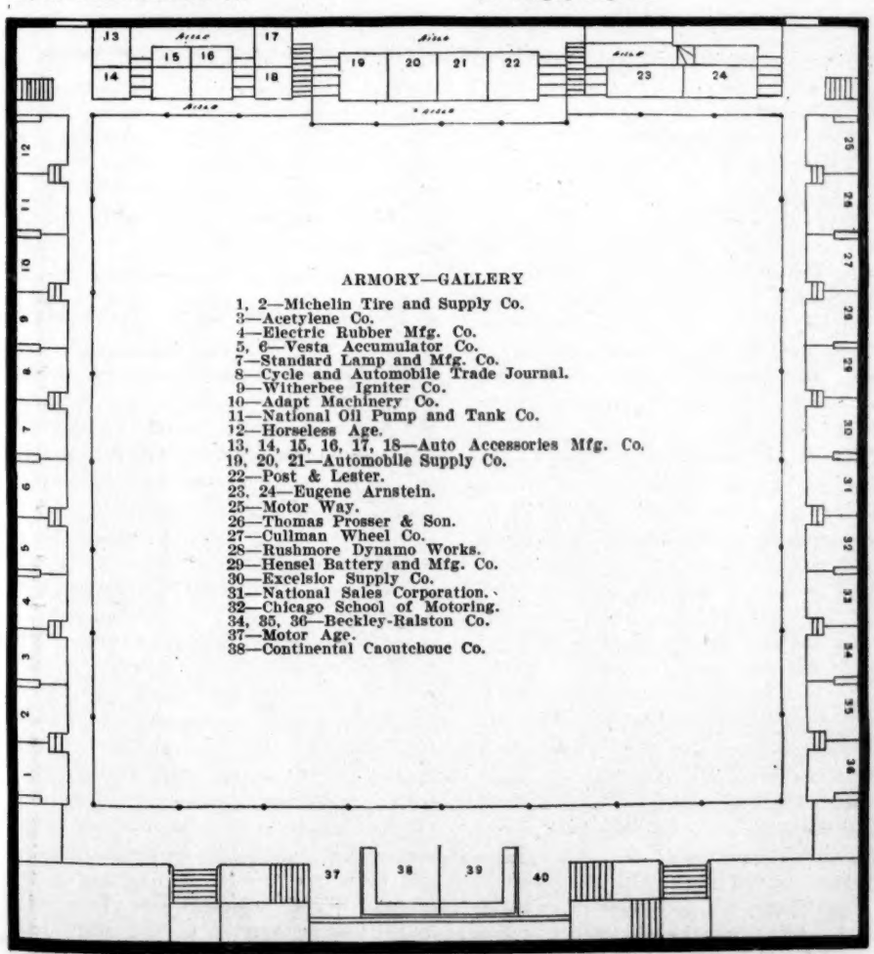
GROUND FLOOR PLAN FIRST REGIMENT ARMORY

CAR SHOW AS FINALLY DETERMINED UPON



GALLERY PLAN COLISEUM AND ANNEX

7, 8, 9—S. F. Bowser Co.
10—Weed Chain Tire Grip Co.
11—Valentine & Co.
12—Gabriel Horn Mfg. Co.
13—Steel Ball Co.
14—Motor and Accessory Mfrs.
15—Wray Pump & Register Co.
16—Aurora Automatic Machinery Co.
17—Motor and Accessory Mfrs.
18—Pennsylvania Rubber Co.
19—Chicago Battery Co.
20, 21—Diamond Rubber Co.
22—Hyatt Roller Bearing Co.
23—Whitney Mfg. Co.
24—Motsinger Device Mfg. Co.
25—Shelby Steel Tube Co.
26, 27—Morgan & Wright.
28—Dayton Electrical Mfg. Co.
29—J. W. Jones.
30—C. F. Splitdorf.
31, 32—International Rubber Co.
33—R. E. Dietz Co.
34—McCord & Co.
35—Midgley Mfg. Co.



ARMORY—GALLERY

1, 2—Michelin Tire and Supply Co.
3—Acetylene Co.
4—Electric Rubber Mfg. Co.
5, 6—Vesta Accumulator Co.
7—Standard Lamp and Mfg. Co.
8—Cycle and Automobile Trade Journal.
9—Witherbee Igniter Co.
10—Adapt Machinery Co.
11—National Oil Pump and Tank Co.
12—Horseless Age.
13, 14, 15, 16, 17, 18—Auto Accessories Mfg. Co.
19, 20, 21—Automobile Supply Co.
22—Post & Lester.
23, 24—Eugene Arnstein.
25—Motor Way.
26—Thomas Prosser & Son.
27—Cullman Wheel Co.
28—Rushmore Dynamo Works.
29—Hensel Battery and Mfg. Co.
30—Excelsior Supply Co.
31—National Sales Corporation.
32—Chicago School of Motoring.
34, 35, 36—Beckley-Ralston Co.
37—Motor Age.
38—Continental Caoutchouc Co.

GALLERY PLAN FIRST REGIMENT ARMORY

36, 37—Hartford Rubber Works Co.
38, 39—Fisk Rubber Co.
40, 41—Badger Brass Mfg. Co.
42—Veeder Mfg. Co.
43, 44—Gray & Davis.
44, 45—Goodyear Tire and Rubber Co.
46—Rose Mfg. Co.
47, 48—B. F. Goodrich Co.
49—Timkin Roller Bearing Axle Co.
50—Baldwin Chain and Mfg. Co.
51—Brown-Lipe Gear Co.
52—Spicer Universal Joint Mfg. Co.
53—Long Mfg. Co.
54—Swinehart Clincher Tire and Rubber Co.
55—Diamond Chain Mfg. Co.
56—Webb Mfg. Co.
57—Warner Gear Co.
58—A. W. Harris Oil Co.
59, 60—G & J Tire Co.
61—Prest-O-Lite Co.
62—N. Y. and N. J. Lubricants Co.
63—Warner Instrument Co.
64—Pantasote Co.
65—Schwarz Wheel Co.
66—Remy Electric Co.
67, 68—Firestone Tire and Rubber Co.
69—Muncie Auto Parts Co.
70—Cook's Railway Appliance Co.
71—Oliver Mfg. Co.
72—Edmunds & Jones Mfg. Co.
73—National Carbon Co.
74—Hartford Suspension Co.
75, 76—Byrne, Kingston & Co.
77, 78, 79—Detroit Motor Car Supply Co.

COLISEUM—SECOND FLOOR ANNEX

80—Western Malleable Steel Co.
81—Lipman Mfg. Co.
82—Hancock Mfg. Co.
83—Turner & Fish Co.
84—Joseph Dixon Crucible Co.
85—R. H. Smith Mfg. Co.
86, 87, 88—Rands Mfg. Co.
89, 90—Atwater-Kent Mfg. Works.
91, 92—Motor and Accessory Mfrs.
93, 94—London Automobile Supply Co.
95—William Cramp & Sons Co.
96—J. H. Sager.
97—Gemmer Engine Co.
98—Detroit Lubricator Co.
99, 100—Consolidated Mfg. Co.
101, 102, 103, 104, 105—Bethlehem Steel Co.
106, 107, 108—American & British Mfg. Co.
109—F. H. Wheeler.
110—Imperial Brass Mfg. Co.
111—London Automobile Supply Co.
112—W. C. Robinson & Son Co.
113—Kilgore Air Cushion Co.
114—Avery Portable Lighting Co.
115—Kinsey Mfg. Co.
116—Hartford Automobile Parts Co.
117—Oliver Instrument Co.
118—W. S. Jones.
119, 120, 121—Hess-Bright Mfg. Co.
122, 141—Hendee Mfg. Co.
123, 140—Reading Standard Cycle Mfg. Co.
124—Harley-Davidson Motor Co.
125, 126, 137, 138—Deere-Clark Motor Car Co.
127, 128, 129, 134, 135, 136—DeLuxe Motor Car Co.
130, 131, 132, 133—Chicago Pneumatic Tool Co.
139—Harley-Davidson Motor Co.
142—Triumph Motor Car Co.
143—Staver Carriage Co.
144—C. A. Tilt.
145, 146—Chicago Coach and Carriage Co.
147—Fowler-Manson-Sherman Cycle Mfg. Co.
148, 149—Reliable Dayton Mfg. Co.
150—U. S. Kessler.
151—Moline Pump Co.

MOTOR AGE

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A GRAND OPPORTUNITY ALL BUT LOST

MOTORISTS are apparently only ordinary citizens so far as the matter of elections is concerned—they do not impress one as being so clanish as to know when they could serve their own best interests. Great elections have just been fought—greater so far as motoring interests are concerned than a national election could possibly be, no matter what the issue. There is nothing in the issue of a national election which could appeal to the motorist as a motorist, yet he becomes wildly excited over the outcome, as he should from patriotic motives. The elections just held in many of the states might have appealed to motorists as a class if those who own and operate motor cars had taken the trouble to appreciate the fact that in most of the states members of the respective legislatures were elected and that upon these men falls the task of making the laws that provide the highways upon which motor cars are driven and the laws to govern the conduct of motorists. The fate of the motor car and of the motorist as a motorist is to a large extent placed directly in the hands of the men selected to represent the people in the various state legislatures. So far as the motorists of the country are concerned, they laid dormant—except in a few isolated cases—and permitted candidates to be selected to fill offices without even ascertaining what might be their stand upon the question of good roads, motor legislation, or anything else that could properly be classed as having any direct bearing on the matter. Those individual motorists and those motoring organizations that have permitted this election to pass unnoticed will some day waken to the mistake they made by their inattention—after some of the present-day laws have become so petrified and undefied that they will have become precedents difficult of obliteration.

The interested motorist naturally becomes discouraged when he learns that this country possesses hundreds of clubs, numerous state organizations and three or four bodies laying claim to being national in character, and that these organizations, formed usually for the protection of motorists, make no attempt to carry out the policy upon which they have been builded. He feels he is compelled to go it alone and to take all the abuse the owner of something comparatively new usually has to take; he becomes one of the great army of don't cares. And why should he take more than a passing interest when those bodies that germinate from the seed of protection drift away and find amusement instead of work? Why should he alone seek to improve conditions that ought to be improved for the benefit not of one motorist but all motorists?

The national and state and local motoring organizations, and the trade bodies, too, have strong planks of protection in their platforms—in fact, protection to the motorist has been the thickest board of all. It has been upon this plank to a large extent that the big memberships have been builded. Protection from unjust laws and the advancement of the cause of good roads are about all that most motorists expect or even want from any organization connected with motoring. These things would appear to be of more importance than maps, route books, road races and even tours, all of which are approved and desirable, but as a matter of fact secondary until such time as the motorist has been accorded the rights that other members of the community are at present receiving and without having to incessantly fight for them.

It is to the credit of the motorists of New Jersey that they have doggedly fought the obnoxious Frelinghuysen bill, that has been in force for a season and has been found and admitted by the authorities to be unjust and unworthy of being on the books of a decent community. This is one case of where something has been done; there are a few others, but the list on the other side of the case has almost no end.

In the meantime let the racing board of the American Automobile Association be congratulated; it undertook to handle the racing end of motoring and has done so. It has performed the duty set for it most satisfactorily and it has shown what other committees might accomplish. Had other committees of this and other organizations been as energetic as the racing board much might have been accomplished in the past few years. Now that the elections are over and the members of the next legislatures are known, will the organizations that pretend to represent motoring and motorists seek them and demand or beg for their rights, or will they stand on the protection and good road planks until the boards break in two?

A BOON TO MOTORISTS

EVERY motorist needs protection in the form of accident insurance, for, notwithstanding the reliability of the modern motor car and the care exercised in its operation, there is always an element of danger. Motor Age is continually building up its subscription list, and during the past year has given many valuable premiums with subscriptions. It is now offering what it believes will appeal to car users as the most practical and most useful premium yet offered. This is an accident insurance policy for $2,000, which is given with each year's subscription at the regular subscription price of $2. The conditions surrounding the subscription in connection with the insurance policy are clearly set forth in the advertising columns and are so simple and the offer so generous that motorists can ill afford to miss this opportunity to secure insurance and at the same time obtain a year's subscription to the leading motor car publication of the world.

ABOUT TRACK RACING

EVER a year ago Motor Age took a decided stand against circular track racing, following the nearly fatal accident to Webb Jay at Buffalo. Opinions of leading motorists on the subject were sought and only a few had the least idea that track racing could survive. Motor Age does not believe that track racing can be successful on mile tracks and does not believe it should be encouraged. It takes into consideration, however, the news feature and desires to serve its readers. It therefore takes this opportunity to ask its readers to express their opinions not only upon the desirability of continuing track racing, but whether they believe track racing news, though there is but little of it, should be published in the reading columns to the exclusion of what might be more useful information to the readers. Those who take this opportunity to express an opinion on the subject are requested to be as brief as possible in stating their views on the question.

THE WEEK

Lee Guinness, the Englishman, is hero of Dourdan meeting in France, doing flying kilometer in 200-horsepower eight-cylinder Darracq in 20 seconds.

New York Motor Club definitely announces that its second annual economy run, twice postponed, will be held November 14, 15 and 16.

Promoters of the Long Island highway propose to amend existing laws in order that their scheme may be carried out.

Trade promotion bureau of federal government reports on possibilities for motor car business in foreign lands.

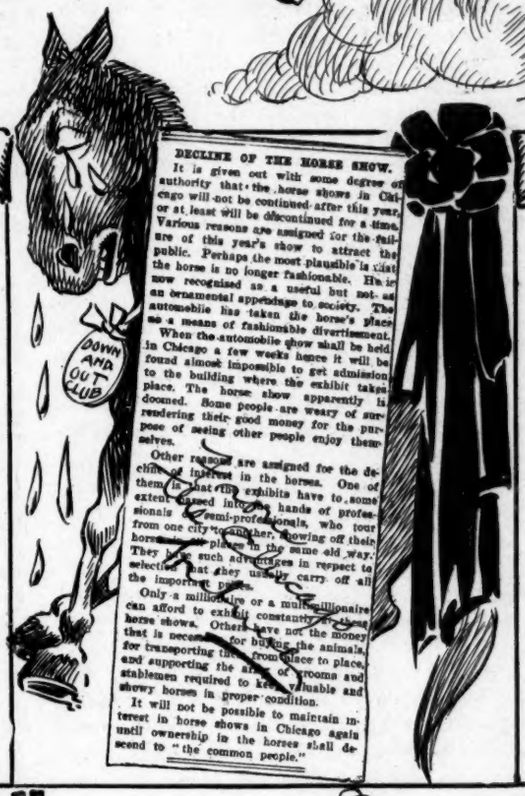
Innovation for handling demonstrating cars at Grand Central palace show in New York is announced.

Automobile Club of France decides to promote big road race in 1907, but does not go into details.

Mercedes and Bianchi makers startle Paris by fitting oil-tight covers to chains.

Cable reports announce White steamer winner in English town carriage competition.

A. L. A. M. holds annual meeting and elects officers.



DECLINE OF THE HORSE SHOW.

It is given out with some degree of authority that the horse shows in Chicago will not be continued after this year, or at least will be discontinued for a time. Various reasons are assigned for the failure of this year's show to attract the public. Perhaps the most plausible is that the horse is no longer fashionable. He is now recognized as a useful but not as an ornamental appendage to society. The automobile has taken the horse's place as a means of fashionable divertissement.

When the automobile show shall be held in Chicago a few weeks hence it will be found almost impossible to get admission to the building where the exhibit takes place. The horse show apparently is doomed. Some people are weary of surrendering their good money for the purpose of seeing other people enjoy themselves.

Other reasons are assigned for the decline of interest in the horses. One of them is that the exhibits have to some extent passed into the hands of professionals and semi-professionals, who tour from one city to another showing off their horses in the same old way. They have such advantages in respect to selection that they usually carry off all the important prizes.

Only a millionaire or a multimillionaire can afford to exhibit constantly at horse shows. Others have not the money that is necessary for buying the animals, for transporting them from place to place, and supporting the array of grooms and stablemen required to keep valuable and showy horses in proper condition.

It will not be possible to maintain interest in horse shows in Chicago again until ownership in the horses shall descend to "the common people."

COMING EVENTS

November 1—International exposition opens at Christchurch, New Zealand.

November 1-16—Annual German motor car show, Berlin.

November 12 to 17, inclusive—Dunlop trophy 1,000-mile reliability tour in Australia.

November 14-15-16—Second annual economy run, New York Motor Club.

November 15-24—London, Olympia motor show.

November 23-December 1—London, Stanley show, Agricultural hall.

December 1-8—Motor car show, Grand Central palace, New York; A. C. A. and A. M. C. M. A.

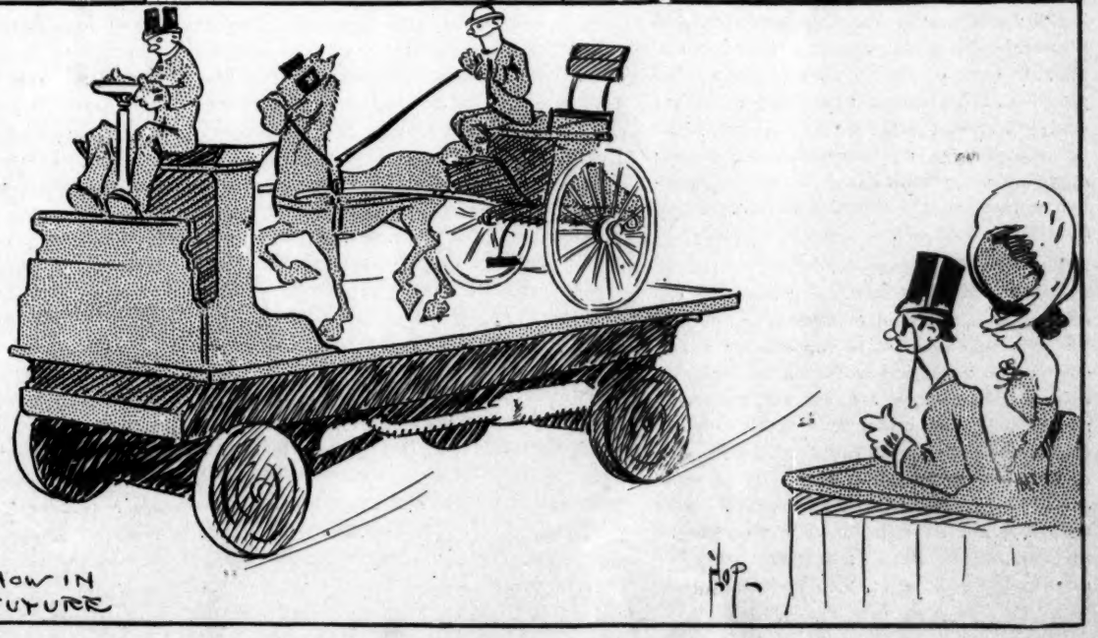
December 7-23—Ninth annual show of Automobile Club of France, Paris.

January 5-12—Annual show, Dublin, Ireland.

January 12-19—Seventh annual show of Association of Licensed Automobile Manufacturers, Madison Square garden, New York.

January 22-27—Annual Ormond-Daytona beach meet; Florida East Coast Automobile Association.

February 2-9—Chicago show, Coliseum and First regiment armory.



THE HORSE SHOW IN THE NEAR FUTURE

CHANCE FOR AMERICAN MAKERS

Trade Promotion Bureau of Federal Government Reports on Motor Car Business Possibilities in Foreign Countries—Opportunities in India for All Sorts of Rigs

Washington, D. C., Nov. 5—Several months ago the trade promotion bureau of the federal government sent a number of special agents to various foreign countries to report upon the possibilities for the expansion of American trade. They have just sent in some timely information on the motor car trade in the countries visited. Special Agent Pepper says the excellent roads of India, extending for hundreds of miles, make heavy cars unnecessary in that country. India is rapidly taking a leading place in the exploitation of the motor industry in foreign lands. It is worth the careful attention and thorough investigation of American manufacturers who are seeking to enlarge their markets. The present time is an unusually good one for them to find out what the peculiar and special needs of the country are and what their competitors are doing to capture and hold the increasingly valuable trade. Reliability trials are to be held at Mysore, in southern India, during the Christmas holidays. These will be followed by a general motor car exhibition at Calcutta from January 21 to 30, at which all the leading European manufacturers will be represented. The value of the trade is seen from the official statement that the motor cars, motor cycles, etc., imported during the last fiscal year amounted to approximately $2,000,000, of which half was through the port of Bombay, the supply mart of western India. Accessories, which are classified under the different headings, add to this grand motoring total.

The high-priced cars which in any country must be considered as luxuries have found their best customers among the native rulers, whose example has been followed by the rich Parsee merchants and financiers of Bombay, and in a modest degree by some of the officials of the Indian government. Gradually the use of motor cars has spread until they have ceased to be looked upon as luxuries and are now regarded as necessities by a growing number of persons who are able to invest from $1,000 up to $5,000.

The touring car probably will continue for some time to offer a good field for exploitation, since it is especially favored by government officials for use by themselves and their subordinates in reaching districts not accessible by the railroads, and it should be understood that there are still many sections of India without means of railroad communication. This is especially true of several of the native states whose rulers have been very progressive in providing means of motor transit. The number of touring cars to be seen in the warehouses and garages of Bombay is also noticeable. Motor buses, however, are yet to be introduced in the chief cities. The motor cycle has a fair sale.

A disposition exists in official circles to encourage the use of motor transport wagons for freight as the solution of one of the many problems with which the government is pressed in the economic affairs of the country. In many of the interior districts much loss results every year through the inability of the country people to get their produce to market. The official suggestion is that motor wagons might be manufactured which could transport the produce to the railway station and then be transferred to the railway trucks and be hauled as are ordinary goods on freight cars from station to station. Kerosene is proposed as the most suitable fuel for cars of this kind, since the hauling of highly volatile spirits, such as gasoline, is relatively costly in a country of high temperatures, which India is. The significance of this suggestion regarding a special kind of motor for the railway trucks is its recognition that touring and passenger travel is not the only use to which the motors can be put.

Turning again to the pleasure cars, it may be said the Indian motorist does not care for great horsepower in engines. From 16 to 30 horsepower is the range, with a decided prefernce for the lower figure. But much attention is given to the coach work, which is expected to be both substantial and luxurious. Red leather in the upholstering is not disliked; on the contrary, Indian buyers, especially the natives, want plenty of bright colors.

The trade up to this time has been largely controlled from England. The importations into Bombay during the last year from Great Britain were a little more than $500,000, and from France about $90,000. But many of the cars credited to England in the customs returns are manufactured in France. The colonial rights are held in Great Britain, and under this arrangement the cars are often invoiced and shipped direct from France. Complaint is made that the British manufacturers are not up to date, and concerns holding colonial rights from some of the French manufacturers are likely to do an increasing business. Italy has lately come into the Indian market with its perfected cars, and though the importations last year amounted to only $32,000 the future promises to show marked gains.

The importations from the United States into Bombay were only $14,000, though several years ago this total was exceeded. In the beginning of the trade the cheap light runabout had considerable vogue. Soon, however, a popular light French car with an 8-horsepower engine came into the field and quickly displaced the American car, which was considered too light. An American company is now displaying a 30-horsepower car in Bombay and in many particulars it seems to satisfy the requirements of Indian motorists. But the opinion of dealers is that the sale of cars made in the United States would receive a decided impetus if several manufacturers were to push for the business simultaneously and thus make the American cars better known. The market has grown beyond both the runabout and the light French car and is for cars that retail at from $2,000 up to $5,000. There are more than 600 licensed motor cars in Bombay, and it is noticed that the latest licenses granted are for the more substantial cars. The market in India certainly seems encouraging enough for some of the American manufacturers to incur the expense of sending special representatives to look into it thoroughly.

In a report from Perth, in western Australia, Special Agent Burrill tells how the trade in American cars has been seriously injured by the shipment of inferior cars. The result is that French cars are rapidly taking the lead and are giving excellent satisfaction where American models have proved a failure. According to the dealers of Perth and Freemantle it is apparently another case of "manufactured for export," followed by the discouraging consequences, inevitably following such practices. When the American cars were first introduced, the possibilities for the establishment of a limited but substantial and increasing market were all that could be desired, and, as a matter of fact, a satisfactory trade was built up to the practical exclusion of motor cars imported from other countries. Dealers assert that if the American cars had been sufficiently strong in construction to prevent frequent breakage and expensive repairs it would have been well nigh impossible to break their hold on the market. Purchasers of American cars naturally expected that the machines would stand the wear and tear of ordinary driving, but were disappointed, and are now turning to other cars. A reëstablishment of the trade is possible, but not easy of accomplishment. Importers declare it would be difficult, under any circumstances, to restore confidence in the American car, but demonstrations that would prove beyond a doubt its strength, durability and freedom from vexatious, constantly-recurring, petty break-downs on the roads might be a means to this end.

The popularity of the French cars is increasing steadily. There have been only a few English cars imported into western Australia, and it is probable that the importation will be restricted to those now in use, the cars not having given

satisfaction. There are two points in favor of the American cars which are peculiarly advantageous on Australian roads. First, the engine is placed in the center of the car, and, second, a broad standard gauge is used. A customs duty of 20 per cent is charged on all motor cars imported into the land.

Importers of American cars, in discussing the present deplorable condition of the market, assert that it would be far better for the manufacturer in the United States to add $100 or $150 to the initial cost of the car and have it in as good condition as it would be if intended for the home market before it started on its long journey to Australia. They believe that the higher price that it would be necessary under those circumstances to charge on the market would not interfere with the sale, for Australians demand, above all other requirements, a serviceable car.

NEW YORK'S NEXT TEST

New York, Nov. 5—The twice postponed annual economy test of the New York Motor Club will take place on November 14, 15 and 16, the run being to Albany the first day; to Springfield, Mass., on the second day, and back to New York city on the 16th. Harry Unwin is chairman of the test committee, and all the officers and prominent members of the club have volunteered in the work of getting entries and aiding in the administration. Six entries were assured before work was begun. It is expected that there will be between twenty and thirty foreign and domestic cars represented. The awards will be made on a basis of cost per ton mile, which will be computed as follows: The total weight of car, with passengers, baggage, extra parts and equipment, in tons and fractions, will be multiplied by the miles traveled, giving the ton miles. The total cost against each car when divided by the ton miles will give the average cost. In the total cost will be included charges for gasoline, oil, repairs, adjustments, new parts, tires, fines, tolls and storage. Charges will be: Storage, $1 per night; gasoline, 20 cents per gallon; lubricating oil, 10 cents per pint; time for all repairs and adjustments, 1 cent per minute for a driver and 2 cents a minute for each additional person employed. This rule will include work on tires. Competing cars must carry their full complements of passengers.

TEST IS POSTPONED

New York, Nov. 3—The commercial wagon test which was organized by the Automobile Club of America and which was to have been held over the New York streets from November 7 to 10, inclusive, has been postponed until spring, because it was discovered that the makers are too busy with their show preparations to go into such an affair at the present time. This caused the club to pass up the idea until some time next spring.

BOOM THE BIG ROAD

Eastern Millionaires Rapidly Getting Plans in Shape for Long Island Experiment

New York, Nov. 2—There was a meeting today at the Lawyers' Club of those interested in the promotion of the Long Island motor highway. Dave Hennen Morris as chairman of this special committee reported that after a careful study of the highway law of the state he believed the objects desired by the company could be obtained by the amendment of existing laws. The highway law today throughout the state requires that domestic animals shall be permitted on the roads. An exception to this broad provision will have to be made to accomplish the purpose that the motoring highway promoters have in view, but as these limitations to the highway use by domestic animals will be specifically defined and will be enforced only upon a private road, no difficulty is expected in securing these corporate rights. An indication of the growing interest in the highway by the motor car manufacturers was shown in an invitation extended by President E. H. Cutler, of the National Association of Automobile Manufacturers, asking that a delegation of the Long Island highway directors attend the coming meeting of the association on November 14 in this city to outline the plan in detail. Mr. Thompson and Mr. Pardington were appointed as delegates. Offers of financial aid have already been received from the White, Packard, Thomas, Lozier, Franklin and Pope-Toledo concerns, and others are ready to take stock or bonds as soon as offered. Mr. Thompson reported that he now has voluntary subscriptions amounting to $600,000. President Ralph Peters, of the Long Island railroad, reported that a number of additional consents offering rights of way had been received. He announced that enough land has been offered to the committee without compensation to build a loop for the highway at Riverhead. Those interested in the project have given up all idea of having the inns along the highway run by the company on the club plan and have decided to have all such places run by private individuals under lease from the company. There will be another meeting on November 9.

John Jacob Astor has been added to the list of incorporators and directors, making the total number now twenty. A meeting of all the directors was called for next Friday at the same place, at which time a ticket of officers for the company and committees will probably be announced. William K. Vanderbilt, Jr., will be the president. There will be two vice-presidents, a treasurer, secretary and probably assistant secretary. The finance committee is likely to be composed of Mr. Vanderbilt, H. B. Hollins and August Belmont. That the time is right for such a highway is shown by reports from abroad. England has a big 3-mile track actually in course of construction, while France is thoroughly aroused over the proposition. There is talk of an autodrome and the boulevards of Paris fairly buzz with it.

Mr. Vanderbilt is making his plans to go to Paris next month to attend the international conferenee, at which time it is expected the fate of the next Vanderbilt cup race will be determined.

DEMONSTRATORS AT SHOW

New York, Nov. 5—So great will be the number of cars exhibited at the Grand Central palace show, December 1 to 8, that the show committee of the Automobile Club of America is planning a systematic scheme for taking care of the demonstrating cars that they may be accessible to manufacturers and dealers, and handy for the spectators who may desire to test them. Heretofore the cars have lined up in haphazard fashion along the curbs of the streets surrounding the hall, and it has been a difficult matter to find any particular car without a guide. The cars will be lined up on Forty-third and Forty-fourth streets, east of Lexington avenue, and the suggestion has been made that each be given a definite station, so that one might find it without wandering aimlessly about. Nearly 100 different makes of cars will be on exhibition, and an equal or greater number of demonstrating cars will be on the street, and will probably be divided up in blocks of twenty-five. Cars numbered from one to twenty-five will be assigned to the south side and twenty-six to fifty on the north side of Forty-third street; fifty-one to seventy-five on the south side, and seventy-six to 100 on the north side of Forty-fourth street.

GLIDDEN ON THE MOVE

New York, Nov. 2—Charles J. Glidden reached here today in his annual globe girding tour. In the car with him were Mrs. Glidden, who has already accompanied her husband something like 33,600 miles in his tours; Miss Waldron and Charles Thomas, the English mechanic who accompanied Mr. Glidden on his tours. The destination of the party this year is the City of Mexico, a trip of 7,000 miles, which will be made partially over the highways and partially over railroad iron, specially built railroad wheels being fitted to the car for the purpose. Tomorrow the party will proceed to Washington, thence to Chicago by a route not yet determined. After leaving Chicago a greater part of the trip will be made over the railroad lines to Fort Worth and thence to Laredo. From Laredo to Mexico City the Mexican railroad tracks will be used. Sidetrips are to be made and 5,365 miles of the total mileage will be on railroad tracks. After touring Mexico the car will be shipped to Egypt.

GUINESS IN FAST DASH

Englighman Does Flying Kilometer at Dourdan Meeting, a World's Record

Paris, Oct. 22—Lee Guinness, the Englishman who smashed the world's standing kilometer record in a 200-horsepower Darracq at the Blackpool, England, meet, added the flying kilometer to his collection at the Dourdan meeting, when he did the distance in 20 seconds flat, or at the rate of 111.8 miles an hour. His Darracq has a motor consisting of eight cylinders and the frame is light but powerful steel. The construction makes it necessary for the driver to attend strictly to handling the wheel, while his mechanic operates the brakes and speed change levers. The meeting was not a decided success, because for 2 days previous to the racing the weather was wet and unsettled. It cleared, though, on the day of the meeting, although the roads were muddy, which greatly handicapped the cars. The entry list in consequence was a slim one and the attendance poor.

Of course the Guinness trial was the feature of the day, but the real novelties were the "taximeters," as the Paris cabs are called. These cars are built for service in the Paris streets and are standard turnouts of the firms in question in a very strict sense of the word. They made good time in their respective classes, especially the 12-16-horsepower Chenard-Walcker. Among other makes of cars doing well were mentioned the Bayard, which shone in the kilometer; the Vulpes, the Peugeot motor cycles and the tricars and motor cycles of the Quentin firm, all of which made good but not extraordinary times. The Tourist cars also were very good, and the Vulpes, Chenard & Walcker, Bolide, Radia, Serpollet and Darracq did good work. The Rochet-Schneider was also in excellent trim.

In the standing mile trials for motor cabs only two competed, both Chenard & Walkers, one of them doing 2 minutes 7⅕ seconds and the other 2 minutes 14⅘ seconds at the mile. At the flying kilometer the times of the two cabs were 50 seconds and 1 minute 7⅗ seconds. A Quentin tri-car driven by Coutant did the mile in 1 minute 37⅖ seconds and the kilometer in 55 seconds. Coutant on a Quentin and Gauthier on a Gauthier took part in the motor cycle trials, the former registering 1 minute 23⅖ seconds in the mile and 57⅗ seconds in the other to Gauthier's 1 minute 27 seconds and 55⅘ seconds. Only the mile was attempted by the touring cars at less than $800 in price, both of them being Sizaire & Naudins, Sizaire's car doing 1 minute 54⅕ seconds and Naudin's ⅕ second slower. For touring cars less than $1,500 Delaunay in a Boyer did the mile in 1 minute 39⅖ seconds and the kilometer in 48⅗ seconds, while Collomb in a Tourand did 1 minute 42⅕ seconds and 50 seconds. Gaste in a Radia with 1 minute 18⅘ seconds and 36⅖ seconds carried off the honors in the event for touring cars selling at less than $3,600. For cars less than $5,000 Tourand in a Berliet, with 1 minute 15⅗ seconds and 36⅕ seconds did the best, while for machines listing more than $5,000 Rawlinson in a Darracq made the best time in the mile—1 minute 8 seconds—while in the kilometer Viton in a Rochet-Schneider did 30⅘ seconds to Rawlinson's 34⅘ seconds. In the class for light racing cars Huntley Walker in a Darracq did 59⅖ seconds to the 1 minute ⅘ seconds of Molon in a Gladiator, while in the kilometer Villemain in a Bayard did 26⅗ seconds and Walker 28⅗ seconds. Then came the event for racing cars. Guinness had no opposition in the mile, which he did in 47⅗ seconds, while in the kilometer Longchamps in an Itala did 29⅖ seconds to Guinness' 20 seconds.

A twin event is the Gaillon hill-climb next week, in which the Dourdan competitors will take part. The rules forbid a change of gears, so that those cars that were geared up for the Dourdan flying kilometer will be at a disadvantage next Sunday.

SPANISH SHOW PLANNED

Madrid, Oct. 20—The Spanish king is not going to be left. He is passionately devoted to the motor car, and is shaking up his subjects towards the opening of a great show here. This will be held in May next. The French are attempting to make an impression on the authorities by means of their ambassador at Madrid and will make a great showing with their cars. There will be organized a great tour from Paris to Madrid and down to Seville and back to Madrid, in order to popularize the sport among all true Spaniards. Signor Hilario Crespo, the president of the Spanish trade syndicate at Madrid, is the moving man in the scheme and enjoys the full confidence of the young king in the organization of the first big Spanish show.

WILL DISCUSS THE HERKOMER

Berlin, Oct. 23—The 1907 Herkomer rules will be considered by the international representatives during the Berlin show in November. The emperor has quietly intimated that the race should be international in character, thus snubbing some of the prominent members of the Imperial Club, which has hastily bent to the emperor's desire. It will be proposed that the nominations for the race be made through the clubs to which the owners belong. The entrance fee is to be $150. The circuit will not be too crowded if 150 cars are entered. The race will probably take place over 500 kilometers of ground, but not on the Taunus circuit of the 1904 Bennett cup. The emperor will attend in state with his court at the start and finish.

CHAINS TO RUN IN OIL

Makers of Mercedes and Bianchi Decide To Equip Their 1907 Models With Cases

Paris, Oct. 24—The Mercedes and Bianchi firms are two of the European concerns which will fit nothing but chain cases to their 1907 machines. The covers will be absolutely tight and the chains will run in oil. The action of these firms will no doubt force the hands of several makers who have been delaying their choice of chain covers and still offer bare chains to their patrons.

The first 1907 Mercedes chassis is now on exhibition here. It is 35 horsepower, and differs considerably from the 1906 model. The alterations in the actual construction are so numerous that it is difficult to compare it with the present year's pattern. Although the general outline is the same as usual, with the exception of the bonnet, so many changes have been introduced into the motor itself that only those on the inside would recognize the Cannstatt design. In the first place, a novel carbureter has been introduced, long in shape and supple in action. Instead of the mixture being warmed by hot air from the exhaust, as of yore, it has a warm water circulation of its own leading from the cylinders, and by means of a value the supply of water may be regulated according to the condition of the temperature. The engine governs the carbureter itself when running free by a simple lever, and thus the motor may be left turning at about 150 revolutions without trouble of any kind. The carbureter is directly controlled by a pedal, as well as by the usual finger lever on the steering wheel.

In order to increase the efficiency of the radiator a fan has been placed on the interior surface. The pitch of the blades has been nicely calculated in accordance with the speed of the motor, with the result that even when the car is standing still, with its motor running, a steady current of air is constantly being drawn against the cylinders. The fan in the flywheel is retained and in addition the sides of the bonnet have been opened up with a series of slits. The result is that the motor does not heat and the consumption of gasoline is very considerably reduced.

There are many other minor changes. The pump is driven from one of the camshafts, but care has been taken to see that water cannot make its way into the case by means of the pinions. The Hamelle lubricator has been retained, but it is worked by means of a shaft instead of a chain. This is designed to promote accuracy of oiling and reduces complications to a minimum. The magneto is situated farther from the body of the

motor than has been done heretofore.

Said Marquis de Dion in the trade syndicate meeting on Saturday, "We will protest, through the legal channels, against the abusive employment of the title 'Exposition Internationale de l'Automobile,' a title which belongs to us." The president alluded to the rival exposition which is announced to be held in the glass houses of the city of Paris. The syndicate at its official meeting resolved to prosecute the authors of the scheme for alleged usurping of their rights. As yet no one takes the matter quite seriously, nor the $10,000 prizes offered by no one knows who.

FRENCH RACE FOR 1907

Paris, Oct. 22—French makers have the why and wherefore to rejoice again this year, and this they will do at the banquet at the Palais d'Orsay, held in favor of the three winners of the year's great races, Szisz, Duray and Wagner, all their races having been won within 100 days. The banquet has been promised the support of a large number of makers and others, and some edifying speeches are sure to be delivered, together, it is thought, with a declaration of the policy of the Automobile Club of France in 1907. The club has decided on a great speed contest in 1907. This is what it did at its meeting this week. Baron de Zuylen was in the chair and practically nothing else was discussed at the meeting. A big surprise came when Brasier made known his intention not to do any racing in 1907. It is pretty certain his example will be followed by more than one of the larger constructors, who feel they can very well rest on their laurels in the coming season without that heavy expense occasioned by the racing game. As regards financing the proposed race, the French club kicked blindly against the expense and loudly stated that it could not support another expense like the grand prix with its subsequent loss of $15,000.

ARGYLL WINS ITS CASE

London, Oct. 27—The threatened action of the automobile club against the Argyll company for advertising as if its disqualified car in the Tourist trophy race had won second place, has fizzled out badly. The defense of the company was technically impregnable. It pointed out that the club had not notified the company, as the rules ordained, that its car had been disqualified, nor had the regulations on the matter of disqualification been fulfilled. The fault, of course, lay with the race officials, who had simply violated their own regulations to an extent which left the Argyll company a sound case. The so-called disqualified car was never officially disqualified, and could not now be, since it was never weighed in or inspected after the race, a tame and impotent conclusion, it is contended.

BIG MONEY FOR RACING

Locke King Will Offer $12,500 for First Prize on Opening of 3-Mile Track in England

London, Oct. 26—Locke King has applied to the Automobile Club of Great Britain and Ireland for a permit for his motor track which he is now constructing at Weybridge. It is his intention to promote eight or more meetings next year, with rich prizes hung up. At the first meeting it is proposed to put on a race with a first prize amounting to $12,500 cash, while an equal amount will be distributed among the other events. It is proposed to allow makers and others to use the track on other than race days for the purpose of testing cars and for this purpose an electrical timing apparatus will be supplied. Besides a club will be formed and a club house erected on the grounds which are capable of accommodating 100,000 people. The course adjoins the London & South Western railway's main line.

The track, which is now well on the way to completion, will be more than 3 miles in circumference and will be elliptic in shape, the radius at no curve being less than a quarter of a mile. All curves will be banked and a speed of 100 miles an hour ought to be maintained with the greatest degree of safety. In some instances the banking will amount to 28 feet, graduated to make the track suitable for cars of lower speed. The track will be made of a dustless tar composition and will be 100 feet wide, protected by ditches and fences on the inner side. On the outer edge will be turf banks the height of the car wheels, which are designed to prevent cars from running off the course. Extra precautions to avoid accidents will be taken and no one will be allowed to cross the track at any point, six subways situated at convenient points being provided for this purpose.

Inside the main track will be another on which time trials for the standing and flying mile can be made. It will be smaller, about 30 feet in width, and will diagonally traverse the elliptical course. Besides this there will be about 400 yards in which to work up speed in the trial and about 300 yards in which to stop.

With a track the size of the larger one, track racing can be conducted as it should be. There will be none of the two cars to a race idea. Instead, the full fields will be lined up at the tape and sent away to battle for superiority just as the cyclists used to. It will be possible to get a good view of the track all the way around, so the sport is bound to be thrilling and of the right sort, provided, of course, the cars are evenly matched. One manufacturer has asserted that the time is now ripe for encouraging class races for cars of certain maximum cylinder capacities, and he favors such races at regular intervals throughout the season. This, he claims, would induce the manufacturers to build such cars and amateurs buy and race them on the new track.

England's speedway idea is being copied in France, it is understood. Word comes from across the channel that the question of an autodrome for France—which may be construed to mean Paris—has once more cropped up. It will be remembered that 18 months ago the Auvergne circuit was proposed as a possibility. Now the Auvergne circuit is too far away to be of use to the majority of French makers, especially those around the city of Paris. A district where new chassis can be conveniently tried out is becoming more and more essential to the trade. At present there is a 2-mile hill, a part being a steep grade, just outside Paris, and chassis are to be seen mounting at all hours of the day. But what is required as a test for these chassis is a speed test in addition to the hill-climbing, and this is the why and wherefore of the proposed autodrome.

WHITE A WINNER

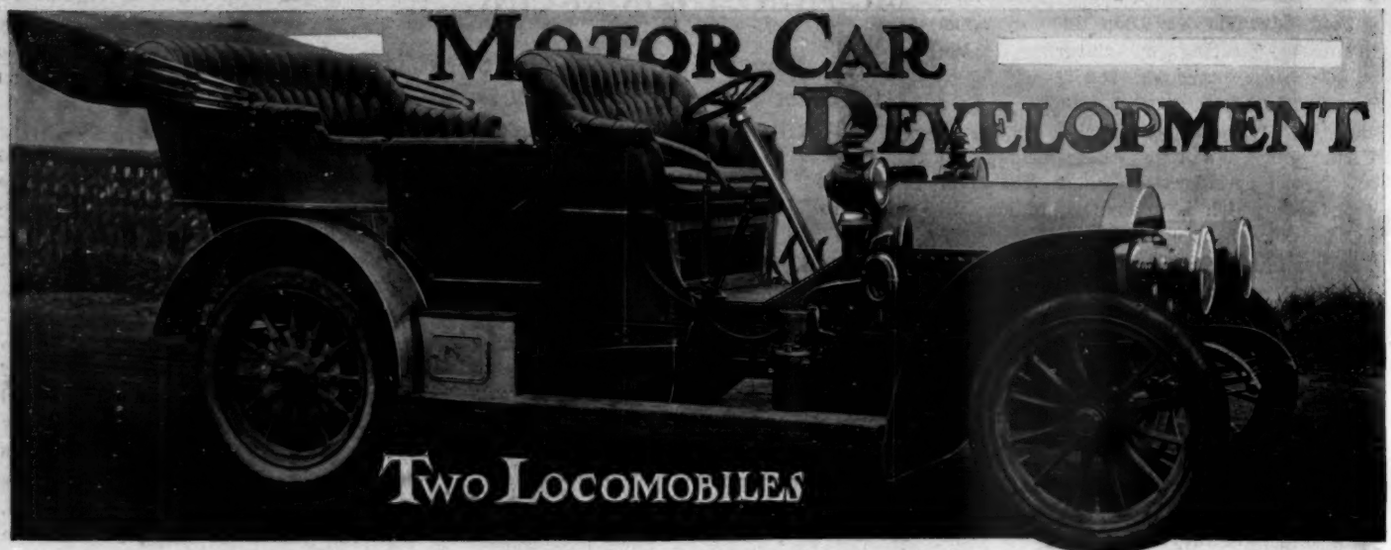
New York, Nov. 5—The results of the town motor carriage competition held on October 15, 16 and 17 by the Automobile Club of Great Britain and Ireland have just been announced and have been cabled to this country. The highest award, a gold medal, was made to the White steamer. This was the first competition of the kind ever held and was conducted with typical British thoroughness under the supervision of a competent technical committee. The object of the competition, as stated by the club was, "to show the advantages of different types of self-propelled vehicles for town work." The points which were taken into consideration in making the awards were as follows: General design of complete car, general appearance and finish of body work, absence of smell and smoke, absence of leakage and lubricant, absence of noise with car stationary or running, absence of vibration with car stationary or running, smoothness of running and comfort of passengers, ease of cleaning, ease of access for repair, ease of starting, ease of stopping, ease of manoeuvring, comfort of passengers, comfort of driver.

A. L. A. M. ELECTS OFFICERS

New York, Nov. 7—Special telegram—At the annual meeting of the A. L. A. M., held today, forty representatives were present. The officers elected were: President, Charles Clifton; vice-president, Thomas Henderson; treasurer, H. H. Franklin; secretary, L. F. Kittredge; executive committee, F. L. Smith, S. L. Davis, Jr., M. J. Budlong, W. E. Metzger and E. H. Cutler. The only change is that Mr. Henderson is made vice-president in place of Mr. Metzger, who has been added to the executive committee.

MOTOR CAR DEVELOPMENT

TWO LOCOMOBILES



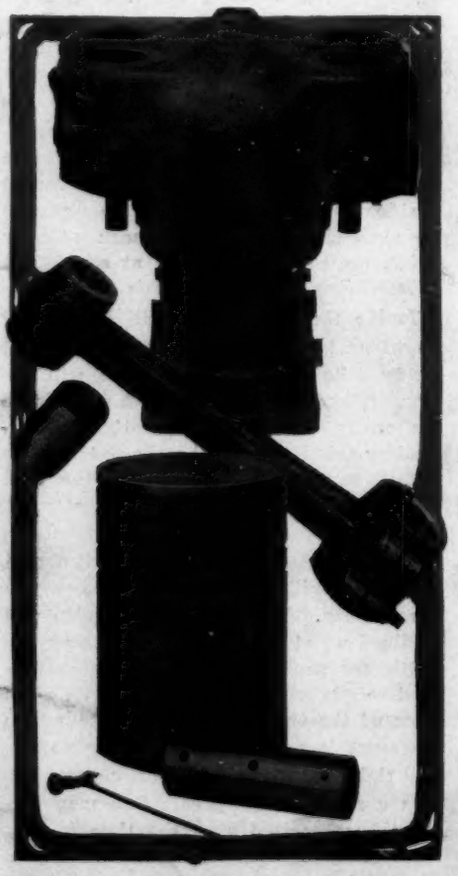
LOCOMOBILE TYPE H TOURING CAR, ACCOMMODATING SEVEN PASSENGERS, WITH 35-HORSEPOWER MOTOR

TAKING the value of the product of any motor car manufacturer in due proportion to the experience of that manufacturer, the Locomobile company can point to the fact that as early as 1901 a four-cylinder touring car was recognized by it as the car of right design, the type of car that the foreign makers were then on the track of particularly sharp. A further recognition of foreign merit was in the knowledge that design was followed up by the careful selection of material and the training of men to good workmanship. The natural sequence of these was the realization that the importance of material had its material importance in the subjection of all metals to chemical and physical analyses. At this psychological time there came into use a finely equipped laboratory of this kind and the expert in charge counts his first client the Locomobile factory.

This undercurrent of conditions is again visible all through both the two models for 1907, known as type E, 20-horsepower, seating five, and type H, 35-horsepower, seating seven. Both are substantially alike in general design, their prime differences being in the sizes of the engines, the springs, the wheels and tires, the wheelbase and the change speed gearset.

The cylinders are cast in pairs with integral waterjackets and valve housings on opposite sides. The igniter ports are cast at the corners of the intake valve chambers, for convenience in removing or replacing. The water caps now screw into place instead of having a ground seat, thus doing away with the bolted-down bridges necessary when the latter construction is used. The water intakes and exhausts are in a line along the top center of the cylinders, the latter having a standpipe running to a point near the bottom of the waterjacket to insure a full circulation of the water, the result being that the water enters at the top of the jacket and leaves by way of the bottom of the jacket.

The cylinders on the 35-horsepower have a 4½-inch bore and strike of 5½ inches. Those on the 20-horsepower, 3¾-inch bore and 4½-inch stroke, and are all ground to 1/1000 of an inch—in fact, grinding plays an important part all through the construction, and not only on the cylinders and crankshaft, and this 1/1000 of an inch is the maximum allowance. The manganese bronze crank case continues to be a feature of the Locomobile engine, giving as it does so definitely secure an anchorage for the cylinders and for the three main bearings of the shaft. This main part of the case is all in one casting, thus adding to the stability of the bearings. The oil pan enclosing and under the main body of the case is of aluminum cast in piece, but with a "riser" at its cross center dividing the oil wells for each pair of connecting rods. Each oil well has its own integral stand pipe for determining the proper oil level, with an outside pet cock. A long-handled wrench is furnished with each car for operating the pet cocks without reaching or crawling under the car.



CYLINDERS, CONNECTING ROD AND PISTON

The crankshaft has three main bearings and these, as well as the bearings carrying the big ends of the connecting rods, are of white metal. The flywheel flange is integral with the shaft and has six bolt holes for the flywheel. The bearing wrists are center and cross bored for oil feeding. It goes without saying that all the bearing sections are ground to that 1/1000 standard, carefully balanced, and that the shaft is of chrome nickel steel.

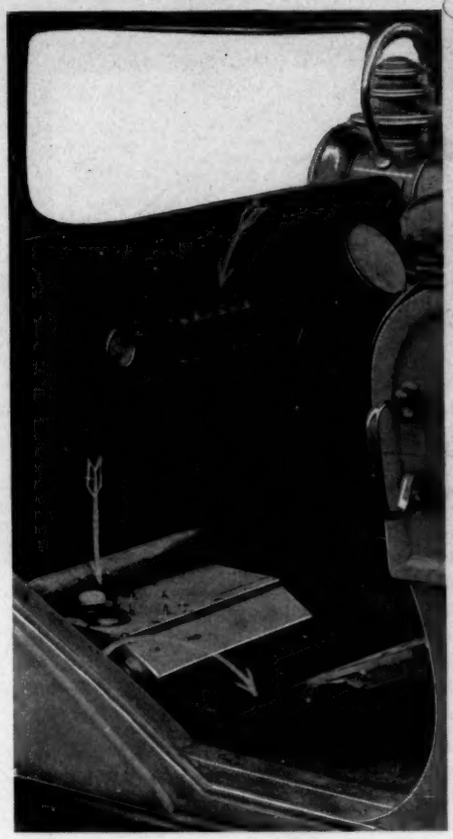
Chrome nickel steel is such an abused term in these days that one rarely hears it referred to around the Locomobile construction. It is used and has been used, of course, where its uses are best, those careful physical and chemical tests so long carried on saw to that, but it has always been called by its physical name, alloy steel, just as the stock room of the plant shows four alloy steels, differing in their analyses according to the uses for which they are destined in the construction of the whole. And it is not the use alone of alloy steels that mark their value—there is their handling in tempering and heat treating that the specific qualities may be intelligently proportioned to the work to be done. Locomobile experience and equipment take care of these important conditions.

The connecting rods are I-section, drop forged in the plant. The crank-end bearing is in two parts, with white metal bearings and shims at the bolts for take up. The piston end has a hardened and ground steel bushing inserted for the wrist pin bearing. The piston is flush line for its entire length with four rings in pairs. The

steel wrist pin is hardened and ground; it has two setscrews near the ends, that are prevented from turning or backing out by a cross wire connecting the two. Pistons and rings are ground to standard.

At the forward end of the crankcase is an aluminum case packed with grease and containing the five gear wheels, made up of the pinion in the crankshaft driving the gear on the exhaust camshaft, and this the gear for the centrifugal water pump—on the right as you face the car, and on the left the combined intake and make and break camshaft, and then the magneto shaft. On the 35-horsepower engine only the exhaust camshaft slides fore and aft, by hand manipulation, to release the compression. The release cam faces are directly opposed to the regular cam faces and are short faced. The governor is located on the gear on the forward end of this shaft. On both sizes of engines the intake camshaft slides for changing the low tension spark position. On this, as in the exhaust shaft of the 35-horsepower, the forward end of the shaft is squared and sliding fits in a sleeve carrying the driving gear, the square fit acting for the positive drive. Both shafts have all their cams solid with them and are heat treated and ground. The spiral faces necessary on the ignition cams are developed to their necessary lines in a special machine. Both cam shafts run inside the crankcase, insuring ample oiling.

The carbureter has been improved with a new automatic air valve. Instead of the valve working against a helical spring, with its varying tension according to the amount of depression, a spiral spring is used, held horizontally over the plunger and in a circular rim, thus giving equal tension at all points of flexture. In other respects the features heretofore used are retained. The main air port has a pipe leading to a barrel-shaped device under the exhaust manifold. This barrel is open at the bottom for cold air and at the top, via a pipe and box surrounding the exhaust, for hot air. The proportions of the two are secured by an inner revolving sleeve, also open at two opposite points, that is revolved by hand and then locked in any



OILER BELOW FOOTBOARD

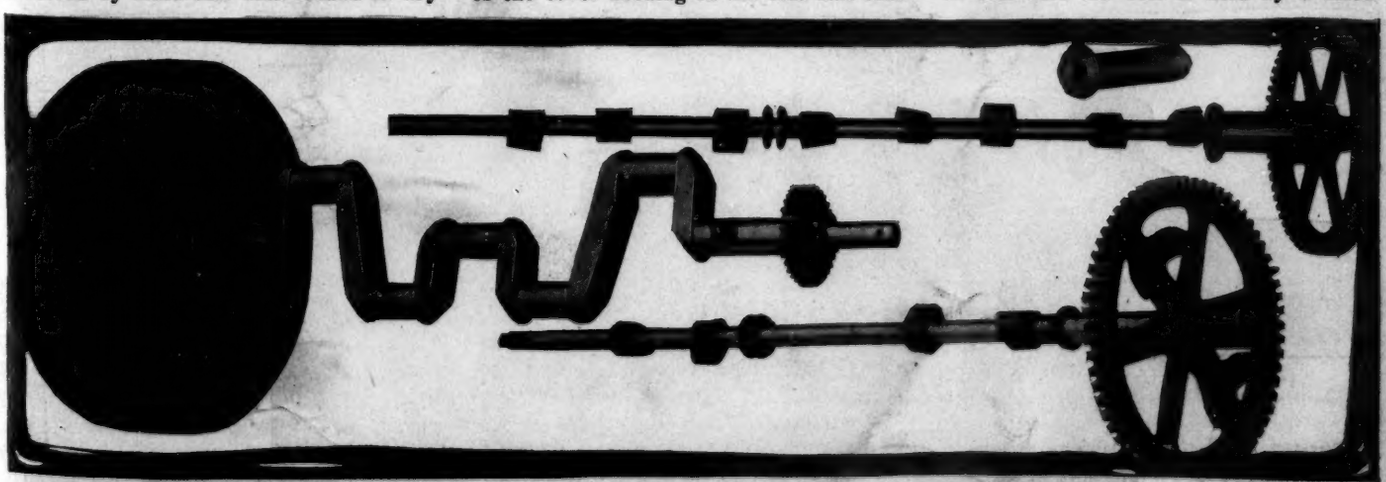
desired position. The float can be held open for pinning by means of a wire leading to a button on the dashboard. The throttle is controlled both by the foot and the governor independent of the set of same determined at the steering wheel. Below the union in the base of the float chamber is a strainer and plug for cleaning. The manifold for the intakes is Y shaped with a short stem and flatted branches, each branch leading to one port for each pair of cylinders.

The water cooler is of the cellular type with a notably tall filing cap and the circulation is by the gear-driven centrifugal pump, with gage on the dashboard. The fan is belt driven and is carried in a bearing head erected on a standard slidingly mounted, for belt tension, on the top side of the cover hooding in the cam and matching gears. The cooler is cradled in the forward cross frame member, which is placed with its lips pointing upwardly.

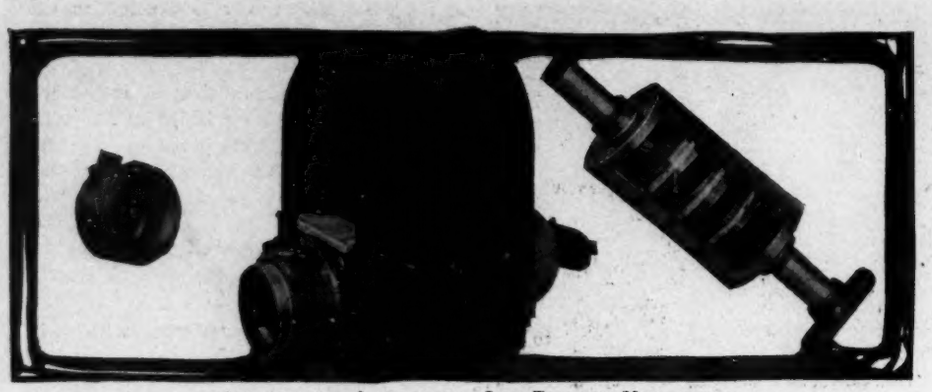
The mechanical lubricator is placed under the sloping floor board at the left, which is hinged. This gives easy access and places it over the exhaust, keeping the oil at a constant consistency. Sight feeds are placed on the dash, three for the 20-horsepower car and six for the 35-horsepower. On the larger car there is also a supplemental oil tank under the left-side frame member. In connection with this are two pumps on the dash, one for raising by air pressure the oil from the tank to the lubricator and the other for direct feed to the various leads when an extra supply of oil is immediately wanted.

The low-tension magneto is jig positioned on the front leg of the engine and is also jig drilled at the universal connecting it to its driving gear. This results in that its removal and replacement cannot alter the timing as set at the factory. It is further held in place by a metal strap passing over it, each end of which is secured to the engine leg. Other minor changes that are noted this year, the third of its use on Locomobiles and "made on the premises," are that the contact end is enclosed in a brass casing and the insulation of the armature is refined in detail. A positive ground is assured at all times by a carbon brush just above the rear end of the armature. In the removable cap over the end of the armature is a plunger which, by means of a very stiff flat spring, is always pressed against the end of the armature. The details of the make-and-break system have required practically no attention in the way of changes. The manner of insulating the fixed electrode or anvil has been altered, the anvil and its insulation now being a unit for convenient and quick handling. Iridium for the contacts will be used on all cars.

The constant point F is a ball, and much experimental work was carried on before this shape and its method of securing was determined upon. The electrode is drilled near its inner end with a taper hole passing entirely through. In the smaller end of this hole the ball is held by a metal



THREE MOTOR SHAFTS—EXHAUST CAMSHAFT, IGNITION AND INTAKE CAMSHAFTS AND CRANKSHAFT



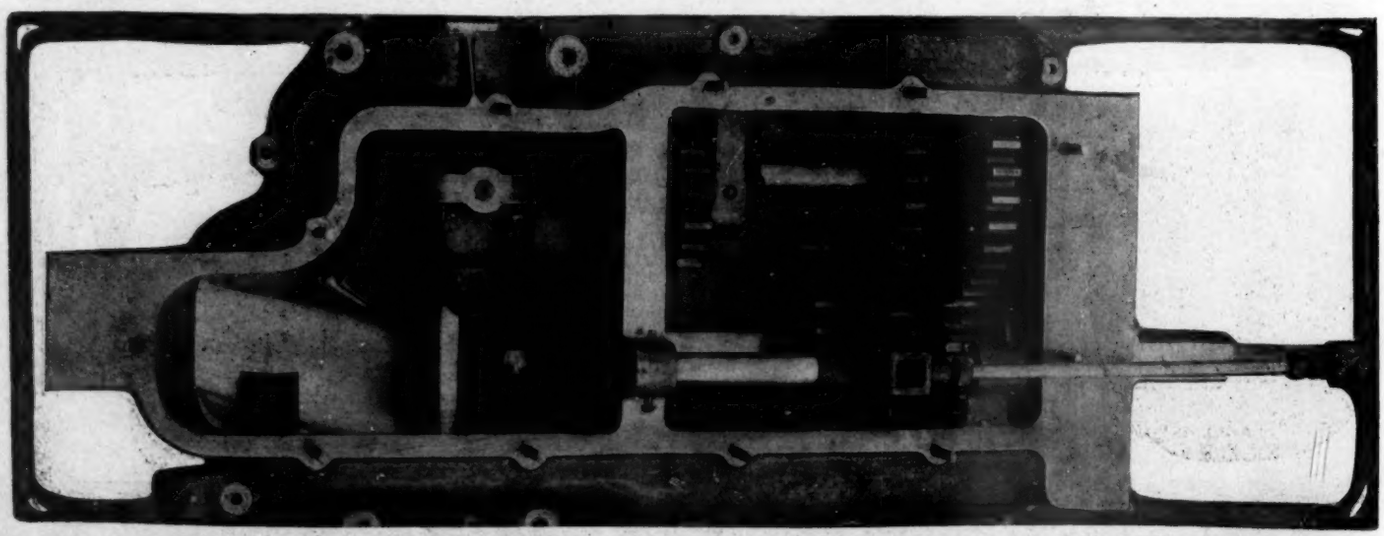
ASSEMBLY OF LOCOMOBILE, LOW-TENSION MAGNETO

backing or filling. The electrode B is, in fact, a brass taper plug insulated at either end by pressed mica washers. In putting it in place in the removable plate A attaching to the corner of the valve housing, it is inserted from the back in a taper hole and is drawn up gas tight by an outside locking nut. The arm D has a slotted eyehole, through which passes the vertical lift rod, rising from the ignition cams on the intake camshaft, and on the inner end of the axis carrying this arm is a second arm E, with an iridium point secured in place the same as in the stationary electrode. In the magneto illustration appears the main part with its three permanent horseshoe magnets, the removable brass cap at the left for enclosing the parts therein, and at the right the armature removed, showing its winding, the wire insulation and method of binding these wires to the armature to avoid disruption of the winding due to centrifugal force. The construction in every part has received due attention; efforts have been made to make the oiling efficient and prevent overflow reaching the armature, and the entire mechanism has been made water proof. Its attachment to the engine bed has been referred to, as has its method of drive. From it but a single wire to the bus bar on the motor is essential. The Locomobile is the one American firm that has consistently stood by make-and-break ignition.

Detail changes have also been made around the steering column. The steering wheel is now hard rubber molded around a bronze spider. This gives a wheel always retaining its finish and, more than all, it is homogeneous, doing away with the checking common to built-up wood, hand wheels. The familiar finger levers above the steering wheel are retained, as also their down connection of a rod connected to the upper lever for the throttle, surrounded by a tube connected at its top with the lower lever for the spark. At their lower ends are small bevel gears meshing with segments respectively on a solid and a tubular rod which extend upward for their respective link connections. These gear connections are now covered with a bronze casing. The tubular standard connects with the sliding ignition camshaft. The inner upright rod connects with the throttle on the carbureter. A plunger on the foot board acts as the accelerator to throw out the throttle governor, on the one-half speed camshaft, and acts independent of the lever on the steering wheel. To accomplish this the rod passing through the carbureter is divided, in the throttle chamber, with its ends butting. The forward rod runs to the governor and the back rod to the plunger and lever connections, moving this back rod forward limits the rearwardly movement of the front or governor connected rod. The electrical cut-out is in a collar surrounding the steering column just under the hand wheel; from this runs a wire enclosed in a brass tube, running parallel to the steering column, protecting it from all outside injury. Worm and segment steering is retained, the hardening of the parts preventing uneven central wear on the worm, a fault found where this care is not used on many steering devices of this order. The drag rod connecting the segment crank to the cross steering tie rod has a ball joint at each end encased in a leather boot. The tie rod is back of the front axle, which protects it from injury.

The pressed frame is of alloy steel, with the top and bottom lips widened at the cambered sections. All frames are quartz blasted for finishing surface. The springs on the 20-horsepower are 40 inches long and 1¾ inches wide in front and 44 by 1¾ inches at the back. The wheelbase of this car is 96 inches, with 32-inch wheels and 4-inch tires all round. On the 35-horsepower car the front springs are 40 by 2 inches and the rear 50 by 2 inches. The wheels are 34 inches in diameter with 4-inch front and 4½-inch rear tires. The wheelbase is 120 inches. On this car the cooler cradle, front cross frame member, is placed with its forward line centering on the front axle. To obviate an excessively long wheelbase or else a far overhang of the rear body the front springs are off center, with the longest reach back of the seat block on the axle. Front and rear axles are I section, drop forged and all springs have their three upper leaves tied with a shackle clip.

In the details worthy of note is the retaining of that excellent idea of casting lugs, on the cylinders, on which is fulcrumed a tool for compressing the valve springs preliminary to their removal. A muffler cut-out is also provided, of good design. It is in the form of a mushroom valve placed in a passage direct from the pipe to the muffler and the final exhaust. This valve is seated just as an exhaust valve is and when closed the exhaust passes through the muffler. By means of

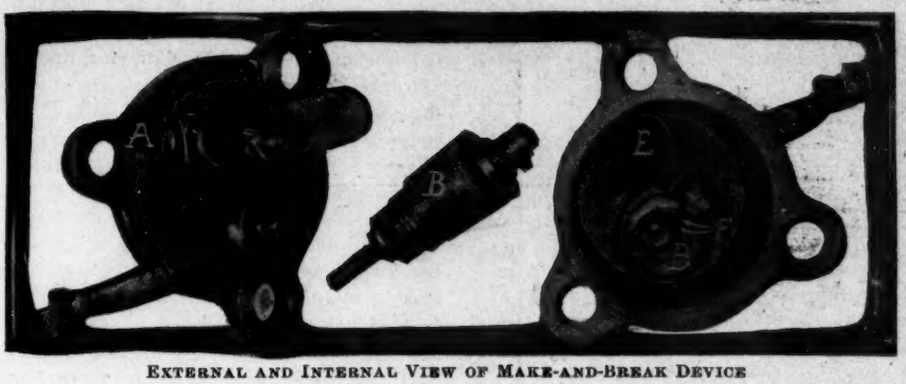


THREE-SPEED GEARSET FOR 20-HORSEPOWER LOCOMOBILE TOURING CAR

a plunger controlled through a chain by the driver, this valve is opened against its spring, giving free and direct passage for the gases. The mud pan is in two parts, one under the engine—with a trap door for getting at the carbureter cleaning plug—and the other running from the first pan, at a point under the fly wheel, to back of the gearcase.

Coming to the gear boxes on the two models are found several changes not only in their detail from previous models, but in the fact that while the small car has three speeds forward with a progressive change lever, the large car has four speeds forward and a selective quadrant. Manganese bronze continues to be employed for the main body because of its tensile value in supporting thrusts and strains. Oil-tight and dust-proof top and bottom cover parts of aluminum are used. The cross shaft M for the chain drive, see illustrations of four-speed gearset, has its differential housing N in unity with the gear section O a cross partition P between the two supporting the bevel pinion ball bearings. Ball bearings now play an important part in the Locomobile, they being used throughout the car with the one exception of the engine. Not only are they used at both ends of the main R and secondary shafts S, at the two differential bearings T in the case, at the sprocket bearings and at the road wheels, but the mainshaft and the thrust side of the differential carry double ball bearings on the 35-horsepower and the mainshaft at its forward end on the 20-horsepower. Attached to the forward end of the gearcase in each model is a grease packed box containing the forked yoke used in declutching. The forks now have annular ball bearings Y, the outer rings of which bear on the collar on the clutchshaft. The single slide rod in the three-speed box and the two-gear sliding rods, L and X, in the four-speeds box, are entirely enclosed. The boxes are supported at J fore and aft from cross frame members.

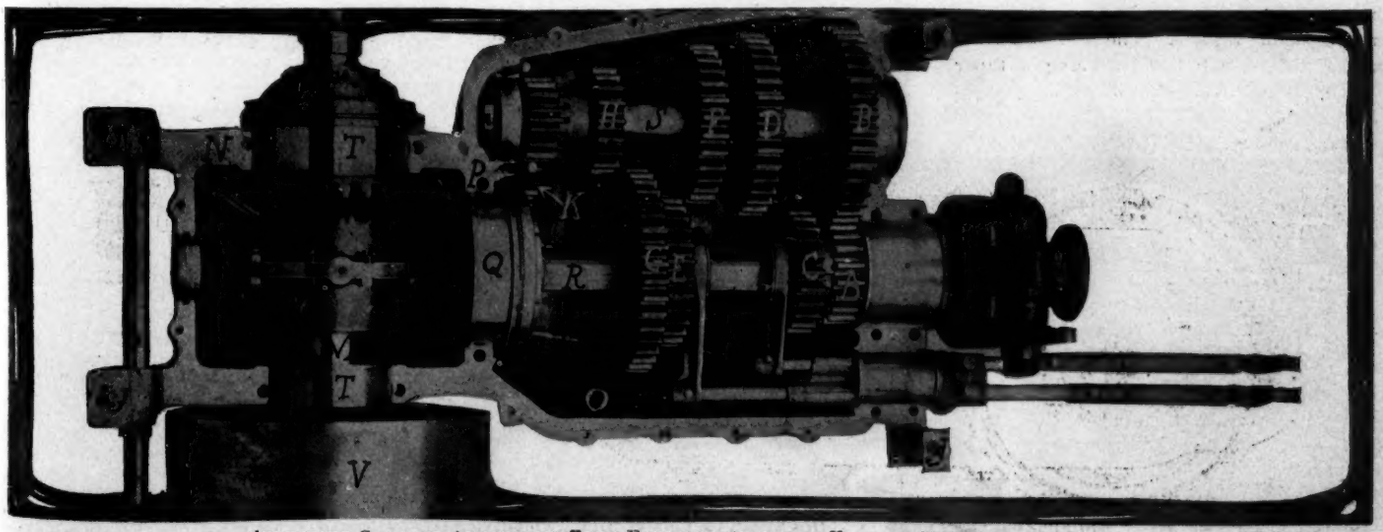
Several changes have been made in the



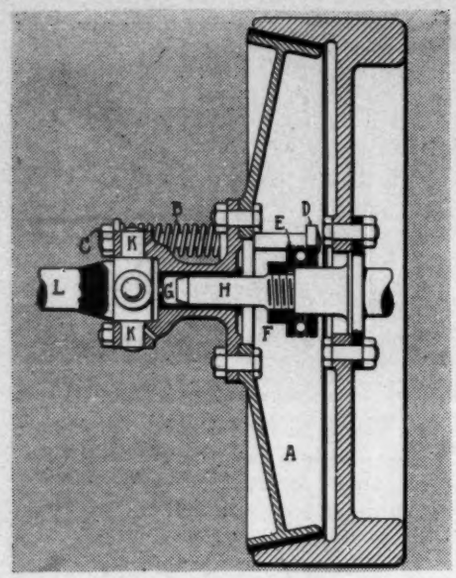
EXTERNAL AND INTERNAL VIEW OF MAKE-AND-BREAK DEVICE

controlling devices, an instance being that the foot brake, acting on the cross shaft drum V is now entirely independent of the clutch mechanism. The foot brake drum is particularly broad on both models, measuring 4 inches in breadth on the 35-horsepower car. The hand brake is inter-connected with the clutch, and is this year pulled back in operation instead of being pushed forward. This operates the expanding shoes in the rear hub drums, which are also the sprocket drums, the contact being iron against steel. A number of detail changes are noted here, all of which appear in the brake illustration. The radius rods A are carried back to the rear axle B, where they have a rocking motion, each being positioned on the axle between two removable, locked collars. Each rod is offset near its back end, bringing it out to nearly center in the combined sprocket and brake drum. This offset comes through an aluminum plate C, carrying a felt ring D, thus enclosing the working parts for oil and against dust. This plate is rivetted to the rod. The standard E for pivoting the brake shoes is a part of the radius rod. The toggle action is adjustable through the link connection F. The return is against two adjustable stop pins G, carried by the strut rod and placed diametrically opposite to each other. Both of these are adjusted by threading into their support and having a locknut for finally securing them.

This year a button release in the top of the gear shifting lever, replaces the heretofore latch. In the four-speed selective gear two year slide rods, L and X, are used and the H quadrant has its inner leg lengthened back of that of the outer. The inner plate has a stop, right angled at its forward end and beveling back at its heel. As the lever is carried forward in the outer leg of the H the high gear is engaged, by a jaw clutch connection between the pinion A in the back end of the clutchshaft and the pinion C on the square drive shaft. This gives the high gear. Moving back in this same leg declutches A and C and engage C with D for third speed, A and B always being in mesh for all ratios, and the secondary shaft running idle at high gear. Bringing the lever for the cross over leaves C disengaged from either A or D. In the inner leg of the quadrant the forward movement of the lever brings the two gears E and F into engagement for second speed. A backward movement until the latch strikes on the quadrant brings the gear G into engagement with pinion H for low speed. Depressing the latch permits the lever to travel to the end of the extended leg to bring gear G into engagement with a pinion for the cross over to reverse. It will be noted that reverse position cannot be taken by the lever without unlatching, but that the lever can travel from reverse to low without touching the latch.



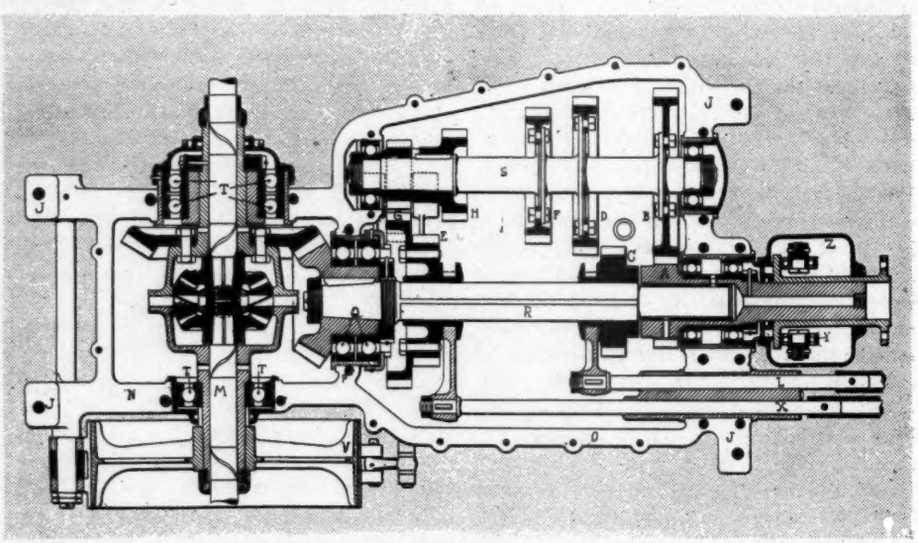
SELECTIVE GEARSET AFFORDING FOUR FORWARD SPEED, AS USED ON 35-HORSEPOWER CARS



LOCOMOBILE CONE CLUTCH

In both models the satisfactory withdrawing, leather-faced cone clutch is used. The aluminum cone A is pulled against three helical springs, one shown at B, that surround studs C projecting through openings in the back plate of the cone. These studs are anchored in a hardened plate D having a ball thrust against a plate E, held by a jamb nut F screwing on the projecting end H of the crankshaft. This projection reaches into a bronze bearing sleeve G that slides on this rear end of the crankshaft. Just back of this is the universal joint K, which this year is somewhat altered, the device being smaller than heretofore and made of drop forgings enclosed in a dust-proof, oil-tight metal housing. Back of the universal is a removable spool L that disconnects the through drive to the gearbox for demounting any part of the power plant without disturbing the balance of the parts.

The Locomobile jackshaft, for the 20-horsepower machine, as illustrated herewith, evidences the general structural features of the large car except in that the 35-horsepower machine has double ball thrust bearings on the thrust side of the differential whereas a single race suffices in the small vehicle. The bevel pinions in the differential, besides being a taper fit on the end of the shafts, are additionally anchored by nut and locknut. The drive shafts 1 inch in diameter are of alloy steel and find their support at the inner end on a ball race of imported Hess-Bright bearings and at the outer ends on a race of $\frac{11}{16}$-inch balls so positioned as to be practically in direct line of the chain pull over the sprocket on the shaft. To avoid the escape of oil from the differential housing where the jackshaft enters it and further at either side of the ball race carrying the outer end of the shaft, a complete packing system is used, that for the differential being secured at each side by nuts threading onto the housing and these for the outer end bearings by packing inserted close to the ball races at either side. One of the latter is anchored by the sprocket, which by its offset part carrying the teeth is well suited to such a duty. This sprocket is keyed to the shaft and further secured by nut and cotter pin. In this illustration at the right of the gearset and carried on the the mainframe pieces in the 35-horsepower car as well as the scheme for declutching and changing of speeds. The car frame, in heavy black, supports three channel cross pieces; that at the left or rear, to the lower lip of which is supported the rear end of the case; that in the center for carrying the forward end long studs projecting from it to the lower half of the gearcase; and that well to the front from which is suspended a guide for the two shifter rods of the gearset. By this suspension a subframe is eliminated and yet the aim of having the gearbox carried specially low, well beneath the car floor, is admirably obtained. On the pedal brake wheel V, 12 inches in diameter, is the clamping hand V2 tightened on the drum by linkage, operated through the curved arm V1 connected to the brake pedal, and withdrawn from the drum by the coil spring attached to the top of the arm V1, and tending to counteract the pedal action, pulling the arm V1 to the rear immediately on release of the pedal.

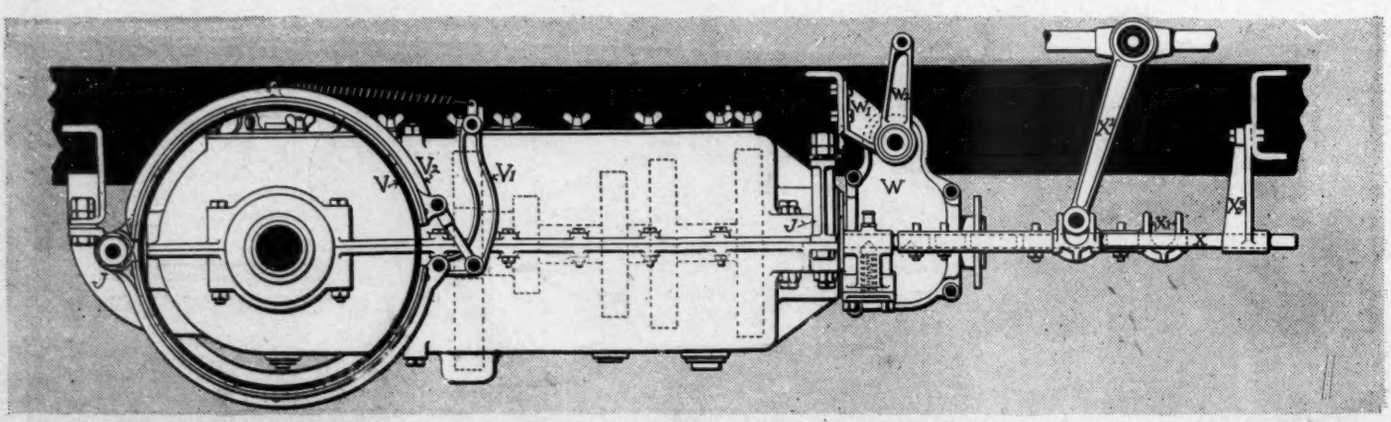


SELECTIVE GEARSET IN 35-HORSEPOWER LOCOMOBILE

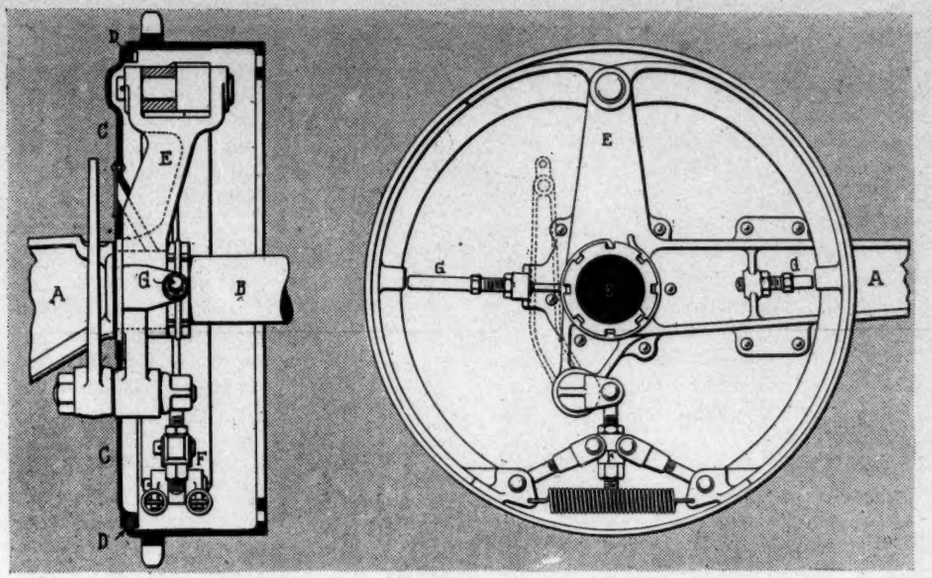
right half of the jackshaft is the pedal brake wheel with 3½-inch width, 10-inch diameter and secure attachment to the right half of the jack shaft by keying.

On the present page appears the scheme of supporting the gearcase from

In nearly all motor cars the declutching mechanism is carried closely in rear of the clutch and beneath the car footboard, but for 1907 Locomobiles use a grease-tight, dust proof case, W, on the front end of the gearbox for the purpose.



SUPPORT OF GEARBOX IN 35-HORSEPOWER LOCOMOBILE AND GEAR-SHIFTER PARTS



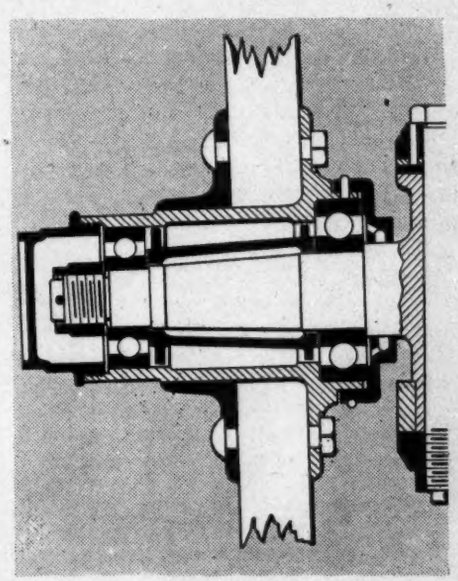
HAND BRAKE DRUM AND SPROCKET COMBINED

In this case, as shown in the plan drawing of the gearset, are the yokes and other parts by which the clutch is withdrawn, the operating arm W2, carried on a bracket W1, being for the operating of the declutching yoke. Carrying all of these parts here and so enclosing them, conduces to longevity as well as ease of operation and further simplifies, clutch removal, accomplished by taking out a short section of the drive shaft between the clutch and gearbox, the removal of this portion being an easy task as it has flanged ends which are bolted to the coresponding ends of the section of the shaft from the clutch and that to the gearset.

The gear shifter mechanism consists of a depending arm X2, the lower end of which engages in the V-shaped receptacle in the upper side of the shifter rods L and X. One of these receptacles is marked X1. With the change speed lever working in the outside leg of the quadrant, the arm X2 locks with one arm as shown, and when in the inner leg of the quadrant locks with the other shift rod. All bolts securing the upper half of the gearbox to the lower have hexagon nuts cotter pinned in position and the inspection cover plate is held in place by a series of thumb screws, also used for retaining the cover on the differential housing.

Of the gears within the gearbox the forward three of those F, D, B on the crankshaft S, are of the ring type, bolted to flanges formed integrally with the $1\frac{9}{16}$-inch shaft, whereas the back pair of gears, the larger H, for first speed and the small one for reversing are keyed in position on the shaft. The mainshaft R, of squared section, with the corners partly rounded off has its forward end rounded to $1\frac{5}{16}$-inch diameter where it enters the rear end of the shaft carrying pinion A, a suitable bushing being interposed. As to the possible speed reductions, the following facts will prove sufficient: Pinion A has nineteen teeth and is of five pitch and is constantly in mesh with gear B, of similar pitch and having thirty-eight teeth. Gear D has thirty-four teeth and gear C, with which it meshes for third speed, has twenty-three. The gears F and E for second speed ahead, have twenty-nine and twenty-eight teeth, respectively, and gears H and G for slower or first speed have fourteen and thirty-eight teeth respectively. The bevel on the rear end of shaft R carries twenty-three and that on the differential with which it mashes—thirty-six. The former bevel is six pitch and the latter four. Viewed from all points the gearset is of exceptionally careful and accurate construction, Designer Riker not having overlooked or neglected the smallest part that would have its effect on the entire case as a unit. For the exclusion of dust the front countershaft bearing is capped and the rear one carried entirely within the case, and at every point where oil might leak out, packings or washers are introduced.

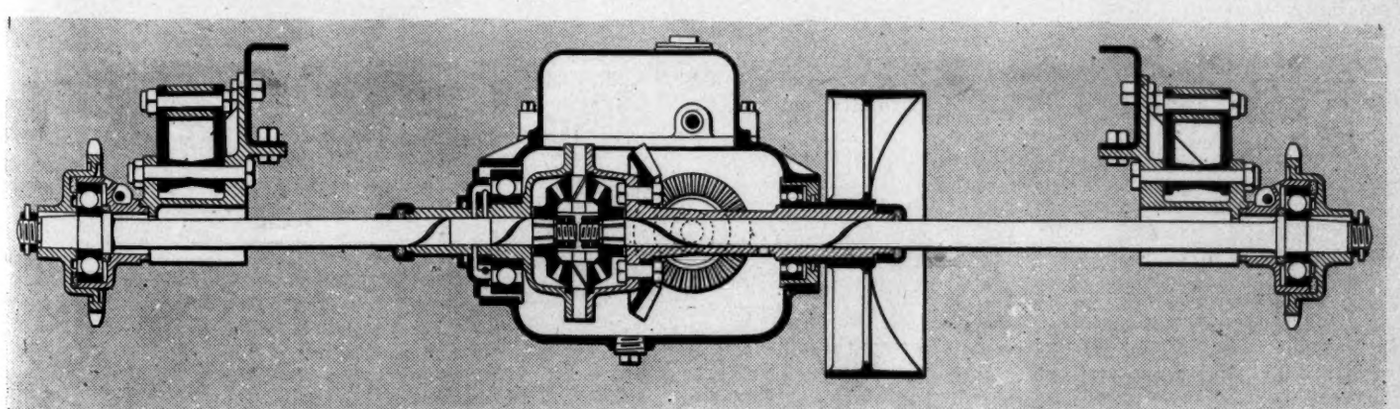
Practically all of the parts are built in the Locomobile factory, and when it is realized that there are nearly 200 drop forge dies alone in the forge room equipment, some idea can be had of what it means to make everything except some specialties like tires, coolers and pressed frames. Not only is there the equipment for making the parts, thus assuring that each part is of the correct metal analysis, but there is the equipment for correct final operations. An illustration of this is found in the vernier testing machine,



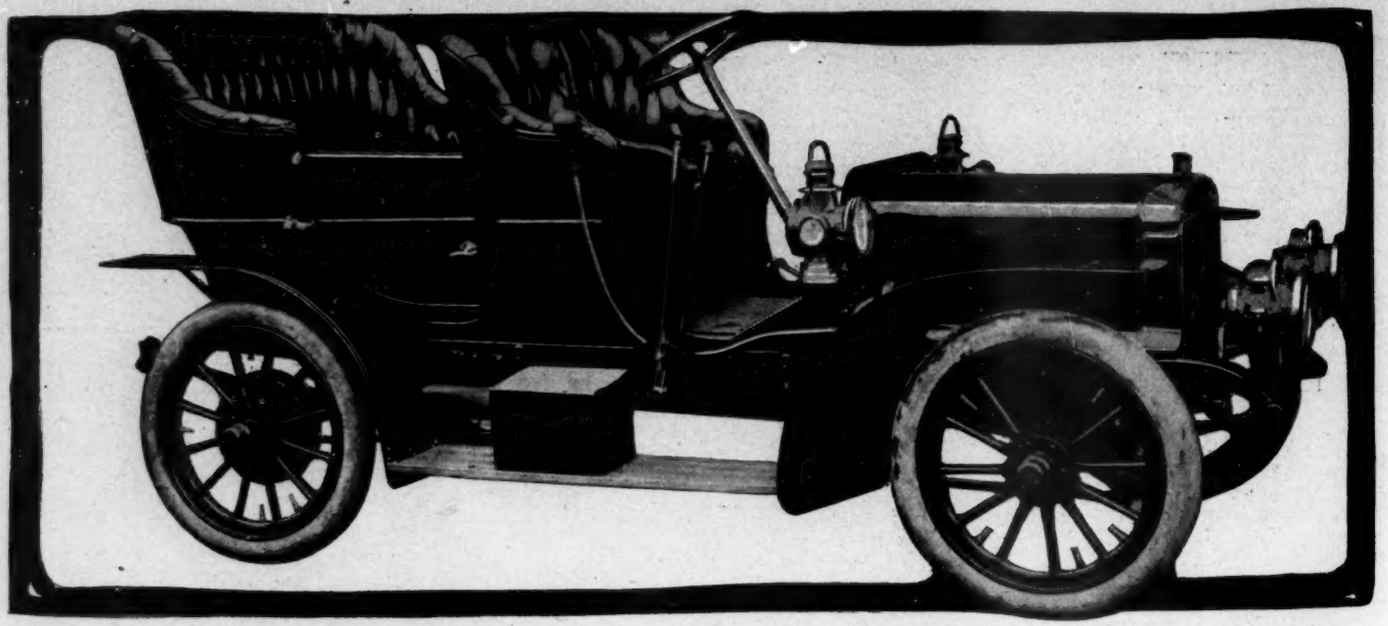
BALL-BEARING FRONT WHEEL

which reads to 1/1000 of an inch. On this are tested all gears after they have come from the cutting room and again after they have been heat treated.

The 35-horsepower car has a seating capacity of seven, two in front, three on



JACKSHAFT IN 20-HORSEPOWER CAR, SHOWING HESS-BRIGHT BALL-BEARINGS AND BEARING SUPPORTS

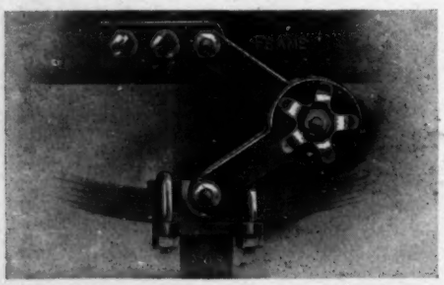


PULLMAN MODEL E TOURING CAR DESCRIBED IN LAST WEEK'S MOTOR AGE, PAGES TWELVE AND THIRTEEN

the rear seat and two on the removable seats in the tonneau. These two seats are removable. The tonneau has a foot rest which may be moved backward or forward or adjusted to any angle. It is also removable. The Locomobile Co. of America, Bridgeport, Conn., manufactures both of these touring car models.

NEW TRUFFAULT-HARTFORD

For the approaching season the Hartford Suspension Co., New York city, presents its Truffault-Hartford friction shock absorbers, in much the same outward appearance as at present, but beneath the surface are several alterations, all of them claimed to be much for the better. The

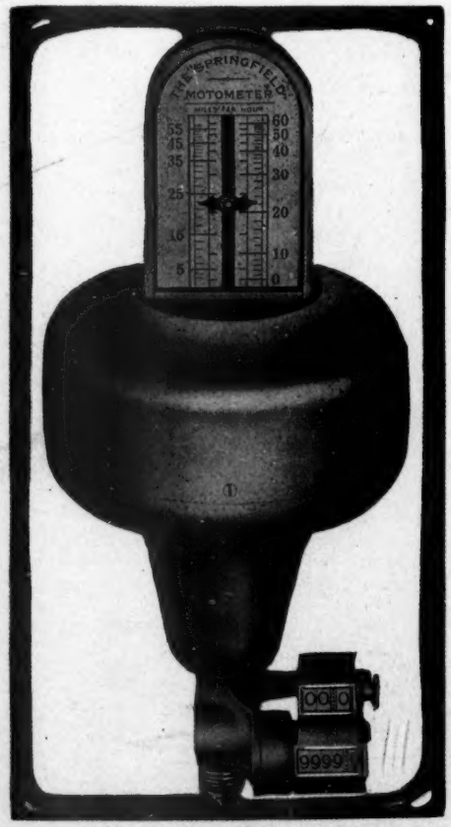


HARTFORD'S NEXT YEAR'S SUSPENSION

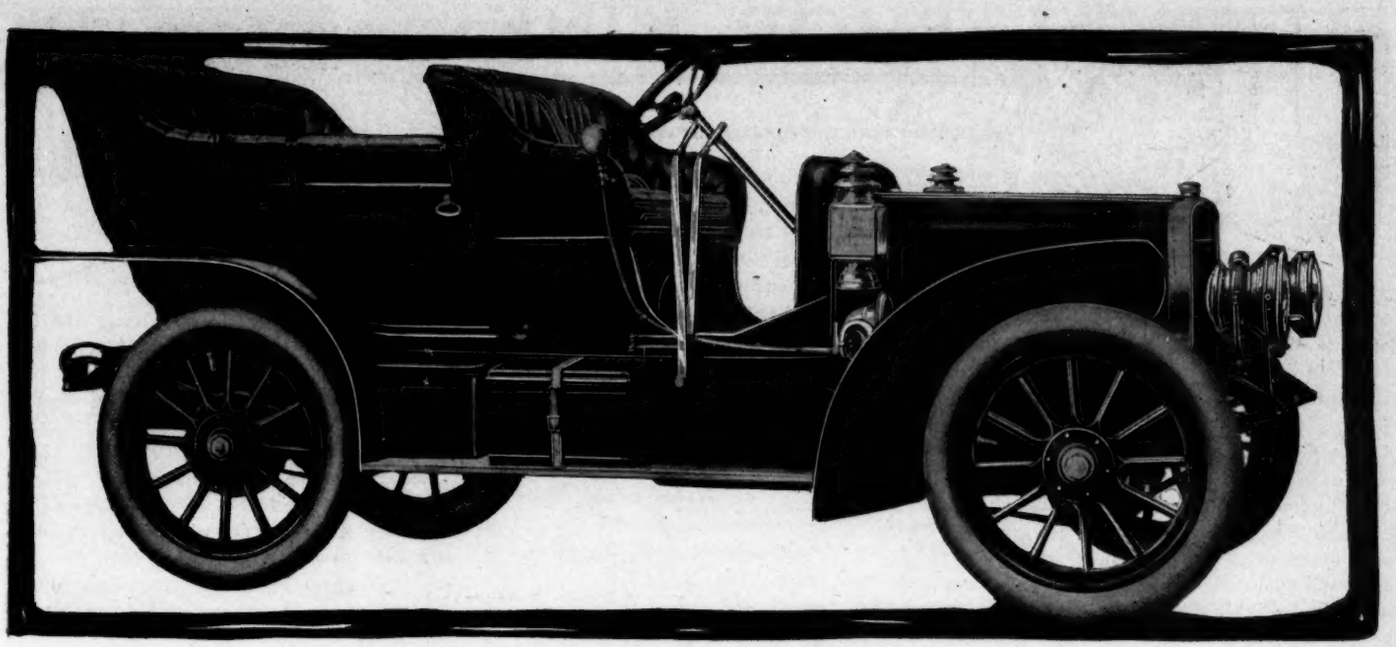
new style, known as style S, is made to automatically lubricate itself, and in position on the car is attached so that the movement is in a straight line between the frame and the axle. The same principle of the 1906 model is carried out in the three-point frictional device, two arms being paired and being joined at the outer end by a single stud, while at the frictional bearing they are separated sufficiently to permit the interposition of the third member. A pair of frictional washers is placed between the two outer sections and the inner one. The arms, as heretofore, are made of crucible steel and the split locknut which claps and offsets the five-pointed spider washer, of tempered steel, binding the moving parts together and maintaining a constant tension upon them, is also included with a few changes in the style S. This spider washer keeps the degree of tension equal and any amount of wear is in this way automatically disposed of, the resistance or the device remaining constant. The maker claims after continued experiment that by having both surfaces of non-absorbent material, the difficulty is in keeping the lubricants on these, but in style S two non-absorbent materials are treated chemically so that they retain the lubricant, the oil only being extracted when the heat caused by the frictional contact reaches a point immediately before abrasion. All arms are equal in the new style, making the suspension uniform and right or lefts are not made.

SPRINGFIELD MOTOMETER

Measuring the speed in miles per hour at which the car is traveling and also recording the trip mileage and the cumulative mileage of the season are the three accomplishments of the Springfield motometer for the coming season, its leading merits of 1906 being generally retained. Viewed externally the motometer is a three-part device—the combined trip odometer registering to 99 9/10 miles and the cumulative odometer registering to 9,999 9/10 miles at the bottom, a central casing housing the governor weights of the instrument, and a top part consisting of a dial with a central vertical slot in it for the rising and falling of the indicating finger. The device is attachable to the dash of the car and is driven from the right front wheel, in a manner identical with other instruments of this class. Viewed internally the simplicity of the apparatus is seen. A vertical shaft rises centrally from the bottom to the top, it being driven from beneath by a flexible shaft. The flyball governor has a hollow spindle, working within which is another spindle, the lower end of which is dowelled to the sliding joint block, and on the upper end is the pointer revolvably mounted so that as the joint block is drawn up by the links, as the fly balls are driven outward by centrifugal force, just so far the pointer rises on the vertical scale and indicates the amount of that force, which is always precisely the same for a given number of revolutions, and as the pointer is raised against a spring resistance of more than 2 pounds at every 25 miles and more than

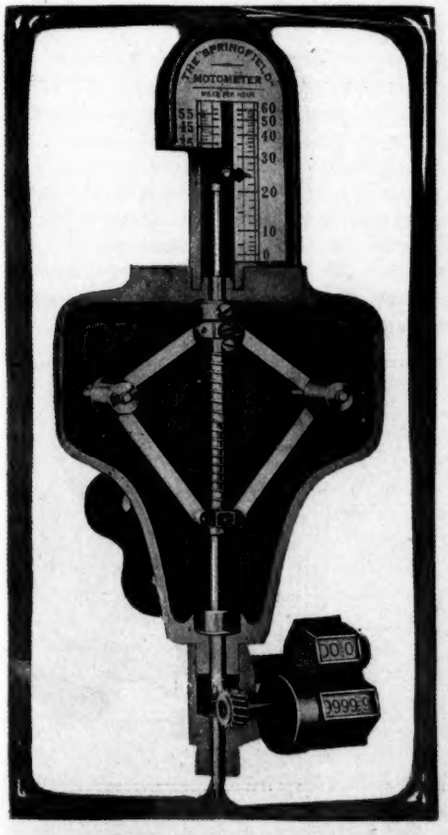


SPRINGFIELD MOTOMETER



WINTON TYPE XIV TOURING CAR—SUCCESSOR TO THE PRESENT MODEL K

4 pounds at 50 miles, while the weight of the balls is less than 2 ounces, the steadiness of the pointer's rise and fall is assured. Oil cups, packed with non-fluid oil, are provided at the upper end of each hardened journal bearing of the spindle, also one on the bottom end of the sliding block which in turn rests in another oil cup on the spindle when the pointer is at zero. Non-swelling, anti-friction washers are inserted above the upper and below the lower thrust collars, and the joint blocks and link ends are hardened and separated by anti-friction washers, which come in contact with the lubricating ring. The worm and gear driving the odometer run in a grease chamber. The case is closed at the factory is dust and water-proof. The R. H. Smith Mfg. Co., Springfield, Mass., manufactures the device.



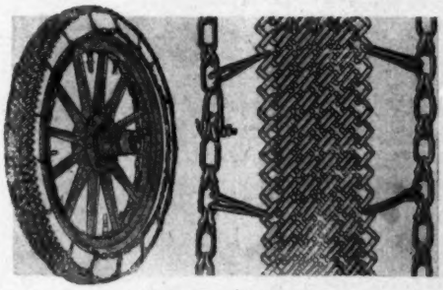
SPRINGFIELD MOTOMETER

CANNE TIRE CHAIN

H. L. Canne, Milford, Pa., controls a patented form of tire chain formed entirely of metal, of any thickness to suit the weight of the car to which they are to be attached. The protector has a wide central strip of metal, of link construction, which covers the tread portion of the tire, overlapping on the sides. Holding this protecting strip in place are two continuous link chains, one on each side of the tire, close to the rim. Connecting these chains with the tread strip are two series of radial links, one series on each side.

WINTON TYPE XIV

Winton type XIV, the 1907 successor of the present model K, carries with it most of the acknowledged Winton K points of construction, foremost among which are cylinders cast in pairs, with automatic inlet valves with air pressure control, individual clutch transmission and shaft drive. The motor, rated at 30 horsepower, has cylinders with 4½ and 5-inch bore and stroke, the walls being ground to a mirror finish and to an accuracy of 1/10,000 inch, which grinding process appears in every plain bearing in the car as well as in pistons, piston rings, crankshaft, valves, universal couplings and transmission shafts. Coupled with the grinding process is that of balancing the reciprocating piston parts, each piston, with its rings and connecting rods being of precisely the same weight. Offsetting the crankshaft, from the center line of the cylinder bore, and similarly locating the camshaft with reference to the exhaust valve lift rods are featured, as is the use of long connecting rods, nickel steel valves, removable camshaft, inspection plates in the side of the crankcase, high pressure hydraulic test of each cylinder and concentric float carbureter, automatically compensating and with one adjustment. The individual clutch transmission affording two forward speeds and one for reversing continues as formerly with its gears always in mesh and the required gears clutched to their shafts for the several speeds. Both shafts are carried on plain bronze bearings and with their gears are enclosed in an oil-tight aluminum case. The drive shaft has incorporated with it hardened and ground, universal couplings enclosed in grease-tight cases and with the car loaded



CANNE TIRE CHAIN

the shaft parts are practically in line. The rear axle as well as all road wheels is carried on ball bearings; the front axle is an I-beam steel forging instead of the manganese axle of this year, and the forward end of the twin springs, so well known on Winton cars, has been dropped, preference being given to a plain eye-hole construction. In last week's issue of Motor Age the above illustration of this product of the Winton Motor Carriage Co., Cleveland, O., was inadvertently used in a description of Pullman cars built by the York Motor Car Co., York, Pa., which car is shown, on the preceding page of this issue.

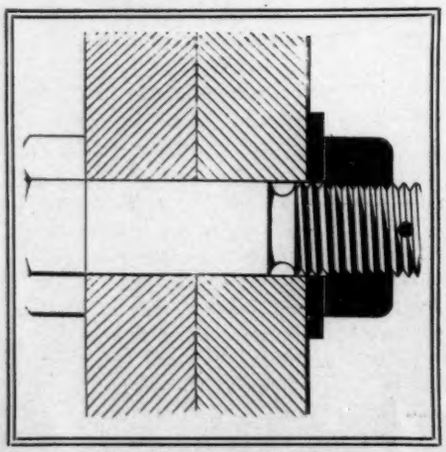
SHOP KINKS

Testing for Compression Leaks

If there is a leak in the cylinder and there is no sound of hissing around the spark plug when the crank is turned, the leak is probably in the exhaust valve or in the piston rings. If examination shows the exhaust valve to be tight, probably the piston rings are at fault, either through being worn loose or through one of them having become broken. A broken ring will generally make itself heard by a distinct clicking noise when the engine is running. An effectual way to determine whether the leak is due simply to the rings being worn is to squirt a small quantity of oil on the piston, which, in the case of a vertical engine, is easily done, and makes the piston perfectly tight while it lasts. Too much oil must not be used or there will be trouble getting rid of it when the engine is to be started and operated under its own power.

New Bolts in Old Cars

Owing to the exigencies of cheap construction a great many cars have the running gear, frame, etc., put together with bolts that do not quite fill their holes, or, more accurately, with holes a little too large for the standard bolt sizes. Constructions such as this stay tight for a time, but they shake loose at last and then the holes begin to wear larger by the constant attrition of the bolts. Tightening up the bolts remedies matters only for a short time, and there are only two permanent cures. One is to drill the holes to the next larger standard bolt size and the other is to ream the holes out round and make special bolts. If the former can be done of course it is cheaper, but frequently it is impossible for one or another reason to use larger bolts, even if special nuts and bolt heads smaller than the regular sizes should be adopted. In case special bolts are necessary they will have to be made about as shown in the sketch. If, as is probably the case, the bolts are subject to shearing stresses, they should be threaded up only a trifle further than the nut is to go so that the joint between the parts bolted together will come on the body of the bolt. If the threads were carried up to this point there would be nothing to restrict the shearing stresses effectually. In troublesome cases, such as steering gear brackets, it will sometimes be found necessary to make the bolts of annealed tool steel.



NEW BOLTS IN OLD CARS

Oiling a Clutch Leather

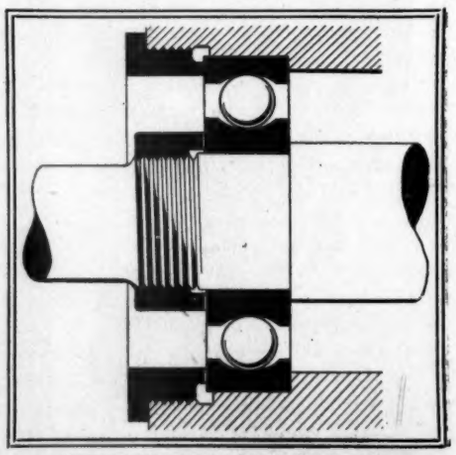
Frequently it is somewhat awkward to treat a cone clutch with castor oil without taking the clutch apart, which, of course, is a good deal of a job. As good a way as any to manage it is to thrust a wooden block into any convenient place in the release mechanism to hold the clutch fully open when the clutch pedal is depressed and then to take a strip of stiff cardboard, or, better yet, vulcanized fibre, or even tin, which can be bent to the curvature of the clutch and slipped clear in with enough clearance between it and the leather face to allow oil to be flowed down the full width of the latter. It is possible to use a small squirt gun or a medical syringe for this purpose, but it has the disadvantage that it does not insure positive distribution of the oil over the entire leather surface, and the more remote portions are liable to remain dry.

Babbitting a Bearing

If a bearing to be babbitted is to contain only a small quantity of babbitt metal, with a considerable body of metal around it, the shaft and the journal box must be heated, else the babbitt metal will cool before it has time to fill the space evenly. This heating can be done in any convenient way, as by the use of a blue flame torch, and the shaft or mandrel when laid in position is wrapped around at the ends of the bearing with asbestos wicking and moist fire clay. It is better to use a mandrel the size of the shaft or a couple of thousandths of an inch larger than it is to use the shaft itself, as the heat of the molten metal is liable to spring the latter slightly. The shaft may be lightly rubbed with cylinder oil to prevent the babbitt metal from sticking. This will make the bearing a close fit on the shaft or mandrel, and a little scraping may be necessary. Another way is to wrap a thin piece of paper around the shaft, either gluing it or holding it by a spring wound tightly in a spiral around the shaft. This makes the shaft a free fit in the bearing, but it should not be used except for large shafts. A small shaft will be made much too loose by this method. The function of the spring referred to is to produce an oil groove in the babbitt. If a straight groove is wanted, it may be had by gluing a suitable strip of wood to the paper. Oil holes are made by wooden plugs suitably located to connect with the oil groove and held in place by the oil holes in the bearing cap or by wires. The shaft does not need to be heated enough to char the paper, and, in fact, the melting point of the babbitt metal itself is below the charring temperature. It is important that the shaft or mandrel should be round, and this is another reason for using a specially turned mandrel instead of depending on the accuracy of the shaft itself.

Repairing Cracked Casings

The motorist who finds his crankcase or transmission case cracked need not be worried about the loss of oil, for the damage is easily repaired—temporarily, at least. What one motorist did will best tell the story. He had driven his car several thousand miles and was on a tour east, when a grinding noise developed. A careful examination failed to locate anything wrong, but the noise appeared at times, gradually becoming fainter, but still there. The trouble was apparently in the gearcase, so upon arrival at a garage at night the case was taken down and inspected. The trouble was soon located, a large nut—whence it came nobody knew—had been grinding its way amid gears and between the gears and the case. The gears were not even marked, although the nut had been worn practically smooth. The case had suffered, for in the wedging process it had been cracked and had opened sufficiently to permit the oil



SPIRAL CREEP IN BALL BEARINGS

to run out. The case was carefully cleaned with gasoline and then a paste was made of litharge and glycerine. This was rubbed into the crack until the crevice was well filled. The flame from a torch was then applied to harden the mixture, and the job was left over night. In the morning the case was put in place and filled with oil and the journey was resumed, the filling remaining intact all the way. After the case was removed for replacement at the end of the season the filling was so hard that it required a coldchisel to cut it. Frequently iron filings are added to the mixture of litharge and glycerine if the crack is very large. This mixture becomes so hard that it requires a file to cut it.

Watching Sight Feeds

The function of sight feeds is to enable the operator to tell at a glance whether his lubricator is working properly. In many cases, however, a row of sight feeds is so located that it is impossible to see what is going on in it, except by close inspection when the car is standing still. Very often a strip of white cardboard behind the sight feeds will make the matter wonderfully easier, and, in fact, there are one or two lubricators on the market whose makers have grasped this idea and furnish a white enameled metal strip which is screwed to the dashboard back of the sight feeds, an idea worthy of imitation.

Lubricant for Ball Bearings

The proper lubricant for ball bearings is thin grease or vaseline. Stiff grease is not desirable and graphite is practically useless for this purpose. If graphite grease is used it should be reduced with oil unless it is thinned to start with, and even then it will owe its efficiency to the grease and oil and not to the graphite.

Spiral Creep in Ball Bearings

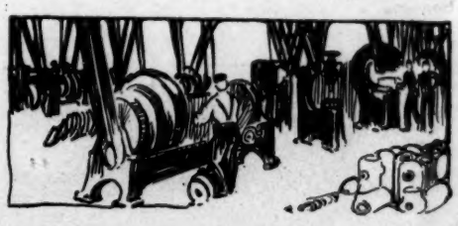
It might be supposed that an annular ball bearing like the Hess-Bright, in case it carries only a radial load and no end thrust, could have one of its races unconfined on the shaft, the bearing then being located by confining the other race in both directions. As a matter of fact it is frequently found that a ball race unconfined in this way develops a tendency to creep in a very fine spiral around its shaft, the action probably being something like that which tends to unscrew the crankpins of a bicycle when these are threaded in the wrong direction. At all events the endwise thrust due to the small spiral creep may easily be so severe as actually to crush the balls, although the shaft itself is under no end thrust due to the load. The makers of these bearings hold, in all cases, that both races should be confined in both directions, as shown in the sketch.

Where Oil Is Bad

Oil should never be used on fiber gears, as it will in time soften them and cause them to go to pieces. The proper lubricant is stiff grease mixed with graphite.

BRITISH MAKERS FEAR CO-OPERATIVE MOVEMENT

LONDON, Oct. 27—The motor business here is pretty much distracted over schemes for direct trading. Naturally the retailers are up in arms, but as they have no organization they are not able to do much, and as the manufacturing side is divided in its views the situation is very unsettled. There is a danger of the co-operative style of trading getting a fair start before the trade will have settled upon a definite policy, while one of the London newspapers, which has daily devoted a considerable amount of its space to motoring for a year or more, is now endeavoring to secure the assistance of leading English motor car manufacturers in a scheme for trading away cars to its readers on the usual plan. The headquarters of the co-operative movement are the offices of the Motor Union. This body now has over 20,000 members and an indefatigable and ambitious secretary who is astutely endeavoring to get the co-operative movement started before the trade can fall into line or be in a position to throw its entire weight against the scheme. Already the union has formulated and officially launched a scheme for mutual co-operative motor car insurance and as a considerable amount of dissatisfaction exists over the manner in which insurance companies have handled motor car business up to the present the scheme will probably be a success so far as its acceptance goes. Once that result has been secured the co-operative principle will be extended to providing its members with motor cars, gasoline, etc.; in fact the embarkation upon schemes for co-operative assistance which would result in the Motor Union becoming manufacturer's, retailer's and consumer's in one. The prospect is sufficiently menacing to induce the trade to combine to defeat it, as there are plenty of struggling motor manufacturing and importing firms which would be quite willing to supply the Motor Union for a start on the principle that beggars cannot be choosers. But it is essential to its success with its members that the union should be able to supply them with leading and successful cars and that is where the substantial section of the trade hold the trump cards. Direct trading of the ordinary character has become a non-commercial policy because the retail trade has become so widely established that it is growing more and more difficult to sell to the public by advertising alone. Yet the agents cannot adequately handle all the agencies that are offered and so many minor firms have to abide by direct trading while the leaders do 95 per cent of the business through the retail agents. There is a general impression here that chiefly owing to overproduction in some popular types of car prices will be reduced in them for 1907. The best selling car on the British market for 1906 has been the Coventry built 10-12 horsepower Humber, selling at $1,250, with a two seated body. In higher priced cars it is probable that the 28-35 horsepower Daimler, selling at $3,000, should be similarly regarded. For 1907 the Humber price will be increased on the ground that 15 horsepower is being supplied, while the Daimler company is bringing out a new gear-driven 20-28-horsepower car which it is stated will be manufactured in the Italian Daimler factory and will be marketed at $2,500, the only other Daimler pattern being a 35-50 horsepower selling at about $4,000. The really small car is not attracting much attention yet, although the advent of the four-cylinder 15-horsepower baby Ford, selling at $760, has caused considerable stir inside the past fortnight and will undoubtedly sell well when exhibited at Olympia. We are also promised from your side a 28-horsepower four-cylinder car which, with European body and equipment, will sell at $2,000. It is a figure which probably represents the average priced car sold here and as the horsepower is from 8 to 10 more than British or continental manufacturers give for the money, it ought to go if it is well constructed and built on conventional lines. It is of no use to send original designs from America. Experienced people are interested, but do not invest, the others are not interested and will not buy because they see it is an untried car. The car to send here is a copy of some well known or successful European car at a price sufficiently below the original to entice purchasers. It is futile to export a purely American design, however good, to take on in the British market without such missionary work and expense as will make it non-commercial for some time, if not for always. The baby Ford will sell simply because it is by a long way the cheapest four-cylinder car on sale here, is light and competes against similar cars possessed only of single-cylinder engines. Next year, however, we are promised a two-cylinder engine 10 horsepower English car selling at $750 and plenty of foreigners at about the same figure, and the success of the Ford will entirely depend on how it stands up. The trade right now is interested in getting out cars for the Olympia show, which will begin the middle of next month.



LEGAL LIGHTS AND SIDE LIGHTS

TO CHANGE JERSEY LAWS

Changes in the Frelinghuysen motoring law, which now controls the ownership and use of horseless vehicles in New Jersey, will be recommended to the next legislature by J. B. R. Smith, the state commissioner of motor vehicles. Mr. Smith believes the present law is based on the right principles, but that it needs some readjustment. It has stopped fully three-fourths of the reckless driving, but needs to be amended to reach the other fourth and at the same time to be shorn of some of its provisions that work hardship on rational drivers. The commissioner will urge the dropping of the personal license for motor car drivers, believing this is not necessary to obtain enforcement of the law. He will urge the elimination of the speed limit in open districts when fast driving entails no hardship or danger, believing that the section which makes drivers liable for whatever damage they may do will keep them within the bounds of safety. Mr. Smith will recommend larger license numbers to make easier the identification of moving cars. The section of the law which permits arrests without warrant is condemned by the commissioner, and he will urge its repeal. He will ask, however, to have the more serious violations of the law classed as misdemeanors, in order that offenders may be extradited if they leave the state. He will also ask the repeal of the section which provides for trial before justices of the peace. He thinks the ends of justice would be better served if such trials were confined to the courts of common pleas. The trouble now is that any minor offender may be haled before a justice of the peace at any whim of a rural constable. He will also recommend the passage of a section providing for appeal in cases where licenses are revoked by the commissioner, as he believes that such power should not be vested in any one man. There is a general demand for some modification of the present law, and it is believed Mr. Smith's views will be indorsed by the legislature and that legislation to suit will result.

KANSAS CITY AROUSED

Following closely upon the death of R. M. Snyder, a millionaire, killed in his car October 27, Kansas City is beginning to enforce strictly its speed ordinance of 12 miles an hour, and two arrests for violations were made within a week of the accident. The Kansas City Automobile Club has taken the matter in hand. Its officers and members always have opposed speeding and in view of the sentiment at this time, met October 31 and passed these resolutions: "The Kansas City Automobile Club, fully appreciating the danger, not only to the public but to its own members, by fast and reckless driving of motor cars through the public streets and boulevards of our city, will cheerfully co-operate with the city authorities in the suppression of the same. We believe that the practice of employing young, unreliable, inexperienced and irresponsible drivers should be discouraged." As a result of the agitation, the police department may add to its regular complement of mounted men several motor cycling patrolmen. This move is now under consideration by the board of police commissioners as a result of a request from the park commissioners, who state that most of the speeding is done on the boulevards —which are under its control, but policed by the regular patrolmen, who bear the title of park police but are not under the park board's control. The first conviction came as a result of this agitation on November 1, when Mrs. Mary Dickerson was haled into court on a charge of speeding. The mounted officer who pursued her car said he was outdistanced in half a block. She was fined $250, but the court later cut the amount to $100, which she paid. Her appearance was by attorney. Mrs. Dickerson is perhaps the most enthusiastic motorist in Kansas City and makes it a point to tour at least 1,000 miles a month. The automobile club, in view of these prosecutions, voted down a resolution to indorse the speed limit of 12 miles. Some of the members declared they would work for a law for 18 miles, of an ordinance to cut out the speed limit.

BLOW TO MOTORING

The mayor and town council of Glen Echo, Md., handed the motorists of Washington, D. C., a "lemon" the other evening when they acquitted Constable Collins of charges alleging conduct unbecoming an officer. The charges were filed by Colonel M. A. Winter, a member of the Automobile Club of Washington, and set forth at length Collins' unfitness to hold the office of town marshal of Glen Echo. The bill of complaint related how Colonel Winter and a party were held up on the conduit road while proceeding along the road in a motor car in the most leisurely manner. Collins held them up and enforced his demand that they proceed with them to Mayor Garrett's office by flourishing a revolver in their faces. This happened to be the second time Colonel Winter was subject to such treatment at Collins' hands and he resolved to make an issue of it. A brilliant array of counsel

was on hand to press Colonel Winter's charges when the town council gathered in the town hall to hear the case. The testimony tended to prove that Collins subjected the motorists to all sorts of indignities without due warrant of law. The trial dragged along for 3 weary hours. At midnight the council retired and within 5 minutes returned a verdict of not guilty. This gives Collins license to do as he pleases on the conduit road and it will have the effect of depriving the motorists of Washington of the pleasure of driving on that road pending the decision of a court as to whether or not jurisdiction over the road within the confines of Glen Echo and over the whole road within Maryland rests with the town, the state or the United States, the road being owned and maintained by the federal government. At the conclusion of the hearing Colonel Winter was fined $50 and costs for violating the speed law, and an appeal was immediately taken by his counsel. It is probable the Maryland motor car law of 1906 will also be brought into question. Mayor Garrett made this remarkable statement at the conclusion of the case: "With all due respect to Colonel Winter and the other gentlemen who have appeared as witnesses here tonight, I declare that the vast majority of motorists who run over the conduit road from Washington are a gang of toughs and hoodlums, who come here to violate the laws of Maryland. I am going to fine all those who are brought before me to the fullest extent of the law. Every man who exceeds a speed of 6 miles an hour within the confines of this town will be fined the maximum fine, which is $50 and costs." The motorists have fired their first gun in retaliation by appealing to the federal court of Baltimore for an injunction to restrain the sheriff and deputy sheriff of Montgomery county and the mayor and marshal of Glen Echo from interfering with passengers along the Conduit road. While the road is in Maryland it is the property of the federal government and the motorists in their request contend the county authorities have no jurisdiction over the highway. If necessary the case will be carried up until it reaches the federal supreme court.

WILL AMEND QUAKER LAWS

The committee on police and fire of Philadelphia's common council has favorably reported two amendments to the ordinance of December 26, 1902, to regulate the licensing and operating of motor cars. One amendment provides that the license for the first year shall be $2, and $1 per year thereafter. The other amendment increases the legal speed limit outside the built-up section to 12 miles an hour.

THE READERS' CLEARING HOUSE

RECOVERING TIRES

Chicago—Editor Motor Age—Will you kindly ask the patrons of the Readers' Clearing House if it pays to have tires re-treaded? I would like to hear from owners who take care of their own cars and the experience of as many as possible. My experience has been unsatisfactory.—J. H. R.

There is ample evidence that it does pay to re-tread a tire, if the fabric is intact. A Chicago case is a sample. The steering knuckle on a touring car had been badly bent; in fact, the wheels were a full 2 inches out of parallel. Yet the operator did not know it. The tires were 32 by 4-inch Morgan & Wright. Only one tire was injured, but this was worn to the fabric. The other tires showed no appreciable wear, though having been used 3,500 miles. The car owner thought he saw a bill for a new casing. The tire was sent in for re-treading and after the operation could not be told from new. It has since been run 3,200 miles, making 6,700 miles in all, and the owner reports it as good as new today. The expense for the recovering was about a quarter what a new casing would be.

ANTI-FREEZING MIXTURES

Eureka, Ill.—Editor Motor Age—Will you kindly inform me through the columns of the Readers' Clearing House what is considered the most satisfactory anti-freezing solution? I should like a formula for glycerine and wood alcohol compounds.—F. B. Stumpf.

Ordinarily 25 per cent of glycerine is sufficient for most climates. Tests prove that glycerine will freeze as follows: Ten per cent of glycerine in water at 30 degrees Farenheit, 20 per cent at 27 degrees, 30 per cent at 21 degrees, 40 per cent at 0. Glycerine and water form a spongy mass when congealed, but the heat of the motor soon causes this thickness to disappear. Calcium chloride is commonly used; it is cheaper than glycerine and has a tendency to absorb moisture. Three pounds of chemically pure calcium chloride dissolved in 1 gallon of luke warm water will resist freezing at 0 temperature. For 20 degrees below use 4 pounds to each gallon of water, and for 40 degrees below 5 pounds for each gallon. Calcium chloride will not attack the metal parts except the solder in the radiator, but if a handful of unslacked lime is added to the mixture and permitted to dissolve, and the mixture strained before using, there will be no damage from its use. It is not so cleanly as glycerine or alcohol, however. Glycerine sells for about $2.50 per gallon, whereas calcium chloride was advertised by Chicago wholesale drug houses last winter as follows: In drums of 700 pounds, 75 cents per hundred; in drums of 100 pounds, 2 cents per pound; 50-pound drums, 3 cents per pound; 25-pound cans, 5 cents per pound. Supply houses sold 10 pounds for $1 and 25 pounds for $2. Many people prefer to use wood alcohol, and the experience of members of the staff of Motor Age has been very satisfactory. The mixture of water with alcohol will naturally boil at comparatively low temperatures. A solution of one-third alcohol and two-thirds water will protect a motor in weather down to 0, while half water and half alcohol will do for about 20 degrees below. Wood alcohol sells at wholesale drug houses for from 85 to 90 cents per gallon. Those who have used alcohol prefer it to the other mixtures, for it does no injury and is not expensive. It is true it evaporates readily and a little alcohol must be added now and then to keep the correct proportions to avoid possibility of freezing.

ANNEALING AND TEMPERING

Sandwich, Ill.—Editor Motor Age—Will you please give me some information through the columns of the Readers' Clearing House? What is the best way to put a new tooth in a gear where the entire tooth has been broken? What is the process of annealing and hardening and what kind of steel should be used?—C. Spickerman.

Occasionally a broken tooth in a gear can be repaired by cutting away the tooth as much as is necessary and drilling holes of a diameter about equal to the thickness of the root of the tooth and far enough apart to give the necessary strength to the rim of the gear between the holes. Steel pins are threaded or riveted into these holes and are dressed down with a file as nearly as possible to the profile of the tooth. The exact spacing of the holes and other details will depend on the thickness of the gear rim. It is generally impossible to make any such repair as this on the gears of a sliding gearset, for the reason that these gears are made with thin rims and are usually either of case-hardened machinery steel or of some special grade, such as chrome nickel steel. Such a gear would not stand being drilled out in the manner described, and any pins that could be put in it would be too weak to stand up. The best way to repair such a gear is to throw it away and buy or make a new one. The process of case-hardening is to bake the parts—which are of wrought iron or machinery steel, never tool steel—in a cast iron box in granulated raw bone. A layer of raw bone is put in the bottom of the box, and the pieces to be hardened should nowhere come within ½ inch of the sides and ends of the box or of each other. The cover of the box is luted with fire clay. The box is heated to a good cherry red in a case-hardening furnace from 3 to 8 or 10 hours, or even longer where a considerable depth of hardening is desired. At the end of the baking the whole contents are dumped in clear cold water. To anneal a gear properly it should be baked in granulated raw bone the same as for case hardening, except that it is not necessary to keep the pieces separate and the bone can be left-over material that has been burned a number of times until it is almost white. The box should be heated through to cherry red and if possible left in the oven, the blast being stopped and the box and the oven allowed to cool as slowly as they will. If the oven is required for other work the box may be taken out and covered with warm ashes, old burned bone, or air-slaked lime so as to retain the heat as long as possible. Occasionally it may be possible to repair a tooth in this manner in a case-hardened gear, the pins being case-hardened after being inserted in the gear.

OIL FOR COOLING

Chicago—Editor Motor Age—One of my friends has used thin oil in his radiator during winter with great success. I never have seen this mentioned before, but now that it is an actual fact why not raise the point and obtain experiences?—B. B. A.

The use of oil is not new. There is a grade of lubricant known as refrigerator oil, from the fact that it remains liquid at very low temperatures and therefore it can be used for lubricating ice-making machinery. This oil can be successfully employed in radiators, provided the circulation is good and the radiator capacity large for the engine. The oil is not nearly so good a conductor of heat as water, and its specific heat likewise is much smaller. In other words it takes a smaller quantity of heat to raise the oil to the temperature of boiling water than it does to raise water to the same temperature. The use of the oil will be an experiment in any case, but there is no harm in trying it. On resuming the use of water, however, the first thing to do is to cut out the oil by filling the radiator, after draining it, with a strong solution of oil soap and running the motor with this solution long enough to get it thoroughly warmed up before the solution is drawn off. If this is not done the radiator and water jacket surfaces will be coated with oil, which will prevent the water from doing its work. Alcohol is considered preferable to oil.

AMONG THE MAKERS AND DEALERS

Motsinger's Chicago Office—C. S. Slaker, representing the Motsinger Device Mfg. Co., maker of the Auto-Sparker, has opened offices in Chicago at 1254 Michigan avenue.

In for Himself—H. M. Giffin, late of the Boston branch of the Pope Mfg. Co., and Daniel Pattinson, have opened a general machine and repair shop in Stanhope street, Boston.

Remy in New Factory—The Remy Electric Co., of Anderson, Ind., has moved into its new factory, which has about 30,000 square feet of space. The new plant is divided into a machine shop, foundry, blacksmith shop, assembly room, stock room and a separate building for office and drafting rooms.

New Industry at Aurora—It is reported from Aurora, Ill., that a new $100,000 company will soon be formed there for the purpose of manufacturing motor cars. The company will occupy the factory formerly used by the Monarch company, its financial backers being Dr. Selkirk of Aurora and C. A. Burkhardt of Oswego.

Another After More Room—The Reeves Pulley Co., of Columbus, Ind., is erecting an addition which will be 64 by 160 feet, one story high, and with a cement floor, corrugated iron sides and a gravel roof. Part of the new addition will be used for a finished stock room, while the rest of it will be devoted to assembling motors and testing them. This addition will enable the company to double its output, from 1,000 to 1,200 being the mark M. O. Reeves is aiming at.

Change of Name—During the past year the McGiehan Mfg. Co., 1557 Broadway, New York, has been reorganized with new capital, new officers and new management, and will hereafter be known as the Winchester Speedodometer Co., Incorporated. The speed and distance indicating devices manufactured by this concern will hereafter be known as Winchester speedodometers and Winchester odometers. The business is under the general management of its president, C. A. Winch.

Changes in Indianapolis—The annual shifting of agencies has begun in Indianapolis and next season will find many of the dealers of that city handling altogether new line of cars. One of the latest shifts is that of the Mitchell agency from the D. B. Sullivan Automobile Co. to the Fisher Automobile Co. The Gibson Automobile Co. will handle the Premier instead of the Reo and the agency for the latter has been placed with the new Capital Automobile Co. H. T. Hearsey & Co. have taken the agency for the Jewell runabout, while the D. B. Sullivan Automobile Co. will continue the agencies for the Lambert and Queen. It is predicted that a specialty of low-priced runabouts will be made in Indianapolis next season, because of a growing demand for cars among rural route carriers and farmers, who do not want to buy second hand rigs.

Buick in Syracuse—The Buick company has opened headquarters in Syracuse on West Jefferson street and will display the Buick in that territory through Assistant Sales Manager Kerr.

Houck in Charge—The Zim-Rock Co., of New York, is now the selling agent for all the territory east of Buffalo for the Pungs-Finch and St. Louis cars. W. G. Houck, a pioneer in the motor car trade, is the new manager.

Sells Second Hand Cars—Philadelphia is to have another concern which will devote its energies solely to the sale of second-hand cars—the Roman Automobile Co., which will open its showrooms on Monday next at 1907 Market street, with a huge garage and repair shop at 2204 Watts street. Cars of all makes and types will be handled.

Budd Succeeds Hawkins—P. R. Budd has been elected president of the Hiland Automobile Co., of Pittsburg, to succeed Dr. John A. Hawkins, who has disposed of his holdings and resigned all connection with the company. W. A. Richwine is now interested in the company in a financial way and has been chosen a director. Dr. Hawkins expects to embark again shortly in the motor car business in Pittsburg. The Hiland company has closed contracts to represent the Peerless, Thomas, Buick and Autocar.

Self Starting Device—One of the self-starting devices that will be exhibited at the Grand Central palace show comes from Chicago, being part of the equipment of the Triumph car. It consists of a reservoir of compressed air, the pressure being maintained constantly by the operation of the engine. When the engine has been stopped, the pressure remains constant until starting. Two of the cylinders are filled with compressed air, which pulls the engine over, drawing the gasoline into the two remaining cylinders, where it is ignited in the usual manner.

Gas for Indianapolis—Factories in Indiana are much interested in the plan now on foot to pipe gas from the Illinois gas fields to Indianapolis. Until a few years ago that city had an amply supply of natural gas for manufacturing purposes, but when the supply gave out the factories had to use soft coal. Almost every year there is great difficulty getting coal into Indianapolis and some factories are handicapped by lack of space in which to store a large supply. It is also believed that with a return of natural gas many of the motor car factories now located throughout Indiana would be attracted to Indianapolis and for this reason the Commercial Club, backed by the factories, is making an extensive investigation of the subject.

Dole Change—F. C. Dole has severed his connection with the Columbia branch in Boston and associated himself with G. Dunning, the New England agent of the Royal Tourist.

More Haynes Appointments—C. S. Henshaw has closed contracts with the Reichert Automobile Co., of New Haven, Conn., and the Maine Motor Carriage Co., of Portland, Me., to handle the Haynes.

Kiser Spreads Out—Earl Kiser has so well promoted the Winton interests in Pittsburg the past season that it has been found necessary to build a large addition to the garage in the East End which the Winton Motor Carriage Co. bought last spring for $25,000.

Change in Officers—The personnel of the Central Automobile Co., which started business in a big garage in Center avenue, East End, Pittsburg, last winter, has changed. W. R. Mooney, chief owner in the company, has sold his interest to Joseph Gilmore, of Steubenville, O. E. L. Seeley, who has been associated with Mr. Mooney in the management, will remain as a partner in the new concern. It will continue to handle the Reo.

Dragon's Philadelphia Plant—The plant in Philadelphia selected by the Dragon Automobile Co. for the building of the new product is the old plant of the Brill Car Co., at Chestnut, Thirtieth and Thirty-first streets. It is a three story factory, with 100,000 square feet of space and has a Pennsylvania railroad siding so shipment can be made right from the doors of the factory. Testing will be done in Fairmont park, which is close by. The factory is now being fitted with a large amount of modern machinery and will be in shape in January. In the meantime, construction will be pushed on cars at Detroit.

Changes Name and Reorganizes—The Maumee Motor Car Works have changed the name to the Craig-Toledo Motor Co. As previously noted, the Maumee people took over the Wolverine plant at Dundee, Mich., at the time being organized and incorporated under the laws of Michigan. A charter under the new organization has been secured under the laws of Ohio, and the general offices of the concern will be at Toledo. The officers of the concern are as follows: President, J. F. Zahm; first vice-president, George L. Craig; second vice-president, W. E. Jacoby; treasurer, A. W. Colter; secretary, W. K. Terry. The board of directors include the above officers and Frank E. Southard and C. F. Aaron, of New York. Other stockholders

are John F. Craig, Elmer H. Close, Charles R. Bowman, L. E. Beilstein and J. G. Swindeman. The company is capitalized at $100,000 and will manufacture a 45-horsepower roadster.

Now a Panther Tire Man—J. Stewart Smith, for 3 years with the Continental Caoutchouc Co., is now metropolitan manager for the Electric Rubber Mfg. Co., of Rutherford, N. J., with offices at 253 West Forty-seventh street, New York city.

Out for Themselves—F. W. Fisher, formerly of the Standard Automobile Co., and W. G. Hasley, of the Liberty Automobile Co., are going into the business of selling cars on their own hook in Pittsburg. They will handle the National and Mitchell lines.

Has the Pope Line—The American Automobile Co. is nearly ready to get into its new garage at 5922-5928 Baum street, East End, Pittsburg. It will handle the Pope cars. O. E. Vestal, formerly manager of the Keystone Automobile Co., will be general sales agent.

Marmon Agents—Agents for 1907 have just been announced by Nordyke & Marmon, of Indianapolis, who manufacture the Marmon line of air-cooled cars. They are as follows: Theodore E. Schulz, New York; C. S. Anthony, Los Angeles and southern California; A. F. Chase & Co., Minneapolis; Brazier Auto Works, Philadelphia; Piedmont Motor Car Co., Atlanta; O. S. Heller, Binghamton, N. Y.; Van Automobile Co., St. Louis; F. E. Wing Motor Car Co., Boston; Snodeal Automobile Co., Baltimore; Nashville Motor Car Co., Nashville; Rickey Machine Co,. East Orange, N. J.; George J. Treadgold, Wilkinsburg, Pa.

Packard Factory Growing—One of the most steadily and consistently growing motor car factories in the country has been that of the Packard Motor Car Co., at Detroit, Mich. When the company moved to Detroit from Warren, O., 4 years ago, it laid out and built a factory in quadrangle shape, which would allow of additions without ruining interior light or preventing a systematic course of productive work. The original plant contained 100,000 square feet of floor space; the factory now contains 325,000 square feet. Another addition of 30,000 square feet is nearly finished, so that in a few weeks the company will be occupying 355,000 square feet of space. This space will produce the 1907 output, but plans have already been drawn and preparations started for the increase of the factory, within the year, by 225,000 square feet, so that for the production of 1908 cars, beginning June, 1907, there will be a total of 580,000 square feet of floor space—over 13 acres devoted to building Packard motor cars. The enlargement of nearly 100 per cent contemplates considerable attention to commercial vehicles. The company is now experimenting with a new commercial Packard of 2-ton normal capacity and capable of a ton safe overload. Manufacture of this will be commenced within a few months. It is now being tested in constant hauling service on all sorts of roads.

New Syracuse Garage—The Syracuse Storage Battery Co. is running a garage in South State street, formerly occupied by the Syracuse Motor Car Co. and will manufacture storage batteries for electric machines, and will do storage and repair work also.

Carbureter Interest Sold—L. F. DeMars has sold his interest in the new Parsons vacuum carbureter to E. L. Rowe, the firm name now being Rowe & Parsons. The device is being manufactured at the plant of the Aluminum & Brass Castings Novelty Co., Toledo, O.

Raise Garage Rates—New rates for storage have been scheduled by the New York Automobile Trade Association, and are now in force. There is an increase for limousines and transient storage. The rate is now $1 per days for storage, with $1 extra for washing and 50 cents for polishing. The increase is little enough, say the dealers, since transient customers as a rule come in from long journeys with their cars covered with the dirt or mud of travel.

Will Make Electrics—The Williams Motor Car Co., formed by H. A. Williams, George Byrider and S. H. Townsend, has succeeded to the plant and business of the Blakeslee Electric Vehicle Co., of Cleveland. The present plant on Wilson avenue near Euclid is inadequate to take care of the business in sight and the company is contemplating the erection of a large factory in some other portion of the city. The company will manufacture several styles of electric pleasure vehicles.

New Locomobile Men—Announcement is made that the following new dealers will handle the Locomobile car for 1907: Compania Mexicana De Vehiculos Electricos, Mexico City, Mexico; Success Auto Co., 120 S. Hill street, Los Angeles, Cal.; H. M. Covey, Fifteenth and Washington streets, Portland, Ore.; Jordan Auto Co., 217 Fourth street, South, Minneapolis, Minn.; Seattle Auto Co., Seattle, Wash.; H. H. Brown, Southbury, Conn.; Welch Bros. Motor Car Co., Milwaukee, Wis.

Quaker Row Full—Manufacturers and agents seeking locations along Philadelphia's famous "gasoline row," will hereafter be compelled to build, every available building having already been acquired for the purpose. At that, newcomers will be compelled to go so far north on Broad street as to be beyond the sacred precincts of the original row. Such was the experience of the International Motor Car Co., which last week decided to build at 514-16 North Broad street, which has a frontage of 31 feet and a depth of 60 feet. This concern, of which J. R. Overpeck is manager, will, true to its name, handle foreign and home-built cars. The domestic product will be something of an unknown quantity in Philadelphia—the Walter—while the foreign car will be the Darracq, which is well and favorably known there.

Warner Moves—The Warner Instrument Co., of Beloit, Wis., manufacturer of the Auto-Meter, finding its quarters in Boston insufficient to handle its greatly increased business, has removed to larger quarters at 925 Boyleston street. Arthur H. Brown has succeeded D. W. Dunn as Boston representative.

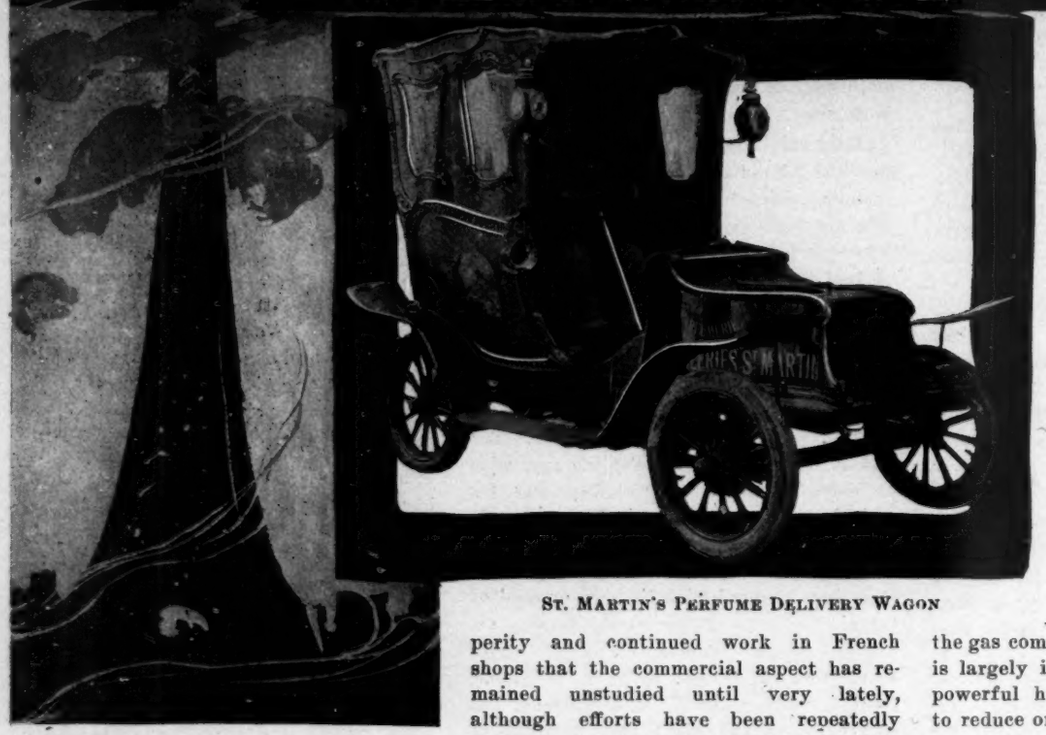
New Speedometer—A new speedometer is about to be put on the market by Charles E. Miller. It will bear his name and be manufactured by Miller Speedometer Co., at Worcester, Mass. It will record accurately speed as low as 5 miles an hour. It requires no bracket on the steering knuckle. It fits any make of car.

Matheson Branch in Chicago—The Matheson Co., of New York, has decided to invade western territory and with that idea in mind will open a branch house in Chicago. The manager of the branch will be Paul Picard, who gives up his Renault connection to take on the Matheson. Mr. Picard is one of Chicago's veteran dealers, having handled the Renault for 6 years, always having been prominent in the trade. At the present time he is looking around for a location on Michigan avenue.

Device for Truing Frames—The E. R. Thomas Detroit Co. has installed a device which consists of four pieces of tubing set in the floor, with sliding shafts and turned at the ends enough to catch and hold a chassis ready for assembling. The shafts are trued to exactly similar heights from the floor and should a new frame be slightly out of line it is quickly shown. By means of lock points on the four sliding shafts the chassis may be raised or lowered to any point desired. An overhead trolley, covering all points in the assembling, carries the heavier parts direct to the workmen's hands. One of the points about the new holder is that the chassis does not rest on the springs.

Has Electrical Department—The Quaker City Automobile Co., of Philadelphia, has just installed a complete plant for taking care of electries. This department will be run entirely separate from the gasoline section—the company handles all the Pope line and the Peerless and Franklin—with a personnel of its own. Dr. Underwood Cochran, a local electrical expert, has been placed in charge of the business and, with Leon Lundheimer, for years connected with the Boston interests of the Pope-Waverly. There are facilities for charging forty machines at one time. The electric department is located on the third floor, the 10,000-pound capacity electric elevator being of sufficient size to accommodate the largest business vehicles.

THE REALM OF THE COMMERCIAL CAR
In Luke-warm Paris



ST. MARTIN'S PERFUME DELIVERY WAGON

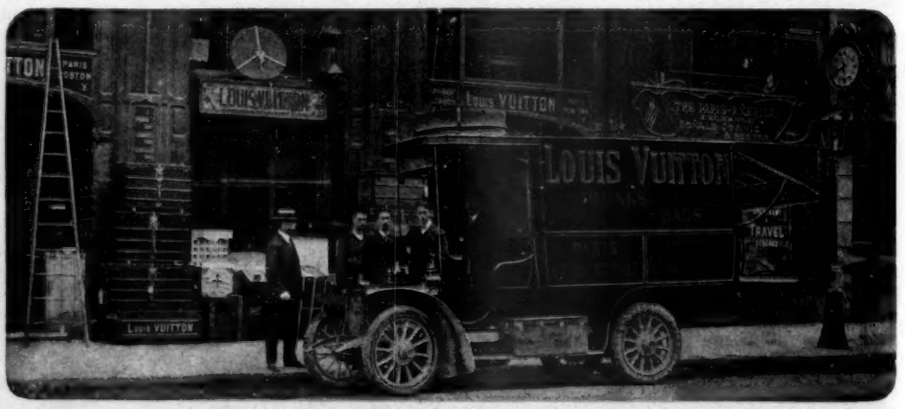
THE statement is often made that France, however much to the fore as regards the pleasure and racing side of the motor industry, lags behind in respect to the motor wagon and every day applications of the efficient and handy gasoline motor. It has been hinted that the French, less practical than their competitors, fail to seize upon the advantages afforded to the commercial user of motor vehicles and that the French motor industry is consequently destined to a one-sided development. If the motor sporting movement be but a fashionable fad, France will fall, it is stated, to a second-rate producer in the motor industry and the time will then come when French exports will have dwindled to a negligible quantity as much "de luxe" as the cars themselves are often supposed to be.

Some of these statements may be partly true; others are misleading, with just a glimmer of truth in their composition to make them dangerous. The French character may have something to do with the slow development of the commercial vehicle in France, for the Frenchman is not so strong in his claim to top place as a merchant as the German or Britain, for instance; but the main reason for the backward state of the commercial vehicle lies in the fact that Paris is, before all, the pleasure center of Europe, and the glamor of the possible profits from foreign visitors and consequent purchases of pleasure cars, has caused such prosperity and continued work in French shops that the commercial aspect has remained unstudied until very lately, although efforts have been repeatedly made by the far-seeing Automobile Club of France to present its advantages to the public and makers.

Nevertheless, were Paris to be compared with London, Berlin or New York in the character and importance of its commercial products, then we would have seen a wider application of the industrial car, and the special conditions which aid the first cause, which are referred to later, would have been swept aside by popular demand. Since Paris leads French life and thought in the motor car as in other industries, France as a whole has not given the attention to the industrial motor that it could have done, in view of the progress made along other lines. It has been easier, more profitable and quicker to develop the pleasure car and the natural bent has of course been in that direction.

Among other conditions tending to restrict the expansion of the commercial vehicle in Paris is the abnormal price of fuel, a price which is artificially boosted, first by state taxes and secondly by town dues, or octroi. Here again Paris leads the way, for on every gallon of motor fuel entering the city limits a tax is placed amounting to 18 cents. This is in addition to the state tax of half that sum, which is already considerable. There is not space here to inquire into the reasons of this unwise but lucrative tax on petroleum and its products, but it may be mentioned that the monopoly of the gas company in Paris, in which the city is largely interested, has been sufficiently powerful hitherto to veto any proposals to reduce or abolish the tax. Other French towns and communities follow the lead of Paris in taxing petroleum and its products, though in much less degree. In view of this artificial state of affairs in Paris it is the rule for all persons who proceed outside the city to take in a stock of fuel just outside the city limits, where the price is a third cheaper than inside the walls of Paris. The cost of fuel inside Paris averages 56 cents per gallon, while outside the barrier it falls to 34 cents per gallon.

Lubricating oils, grease and accessories, including india rubber and its manufactured products, are all slightly more expensive in France than abroad, or at least in neighboring countries, and these items all tend to bear hardly on the would-be user of the industrial vehicle. The smaller shop keepers who would experiment with one or two vans come to the wise conclu-



THE ENCLOSED DELIVERY FINDS FAVOR IN PARIS

sion that it is better to await the verdict of the larger shops before launching forth. The French shop keeper is before all a very prudent tradesman and has not that enterprise which in other countries brings a rapid fortune or the bankruptcy court within easy grasp. The larger shops of course have not the same reasons for abstaining from the motor delivery vans, but here again special conditions arise which have prevented their ready adoption. The Bon Marché, said to be the largest shop in the world, has but one motor delivery van, and this car delivers goods only outside Paris, for the reasons mentioned above. It enters Paris for loading every morning and does duty for the rest of the day in the suburbs, where fuel is cheaper, therefore the operation of the car costs less. The Bon Marché has a big stable of horses and a fine collection of delivery vans and coachmen, all looked after with the greatest care. The efficiency of this large stable is thought to be excellent, and the adoption of the motor vehicle would mean its complete disbanding, for the horse drivers are useless for motor work. The step is a grave one, for the men are so accustomed to the routine that the trade of the firm would seriously suffer, in view of the immense volume of its delivery trade.

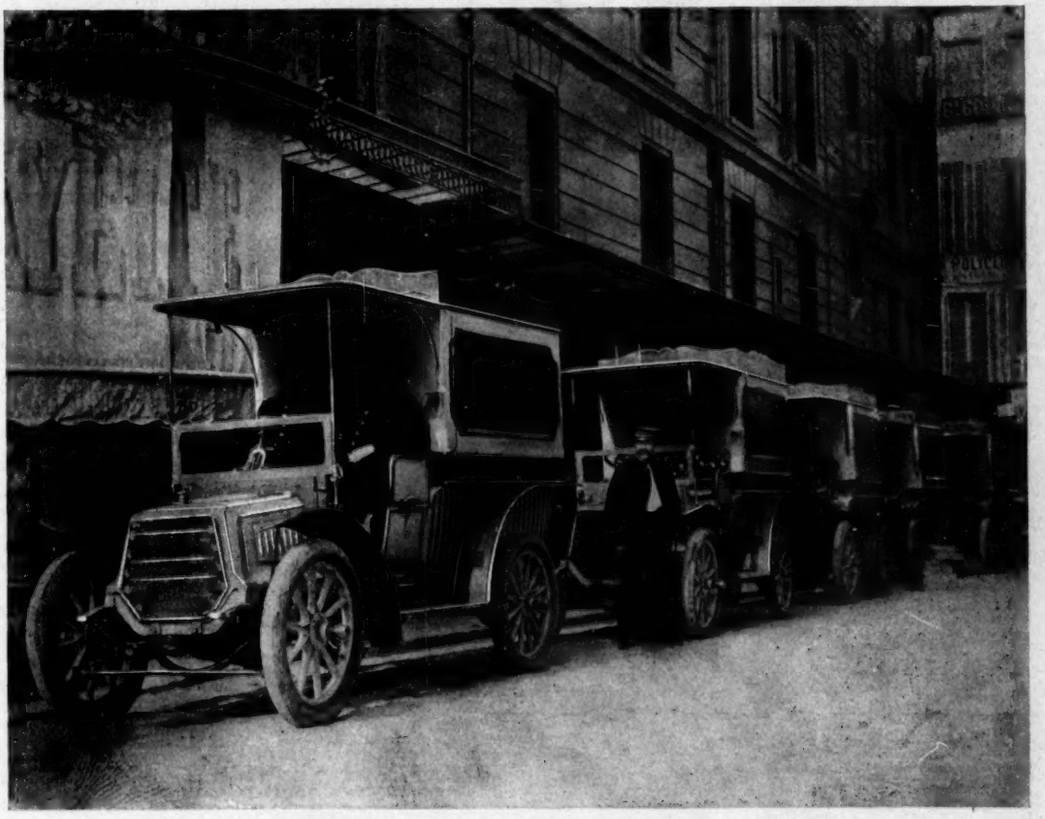
The cost of upkeep of a motor vehicle also enters into the Parisian shop keeper's calculations. The roads and streets in Paris are for the most part paved with granite sets and as a rule these are in poor condition. Wood paving and asphalt have been adopted for the principal boulevards, but the wood is soft pine, grown in France, and rapidly wears into ruts. The roads therefore are generally considered very much harder on the pneumatics than well kept wood and asphalt roads and the majority of the delivery vans require new tires throughout twice a year.

The habits of French life are responsible for the apparent lack of enterprise of the smaller tradesmen in the direction of employment of motor vehicles. French households do not lay in a large stock of victuals and every-day necessities, preferring to purchase in small, almost diminutive quantities, and daily visits are therefore made to the shops. Large families are rare, especially in Paris, and the custom does not entail inconvenience. Thus bakers, butchers, provision dealers and general retail tradesmen do not have the quantities of delivery orders and calls on customers that might be expected, and their natural enterprise is not stimulated. The Frenchman is not a very efficient shop keeper compared with his neighbors and looks closely to the pennies before launching into sudden expense such as would be occasioned by the purchase of a motor van. Again, the centralization of trade in large or medium-sized shops has not proceeded very far in France and retail trade is split up among thousands of very small and miserable looking shops. The scale of payment for provisions is so arranged that it is not more expensive to purchase small than large quantities, no reduction being made to the housekeeper taking a large quantity.

The rush of modern existence has perhaps touched France least of all the great powers, and French people are still accustomed to long deliveries and out of date practices in the handling of goods. All of the above causes tend to keep back commercial applications of the industrial motor, and it has needed all the efforts of the French automobile club to keep the matter before the public eye. Processions have been formed, endurance and time contests have been organized, consumption tests undertaken and makers encouraged to give the matter their serious attention. The club recognized 2 or 3 years ago that lasting success in the motor car world ran along its commercial side as much and more than the development of the pleasure and racing car. It has been within the past 2 years, especially since the tour of industrial vehicles from Paris to Lille and Tourcoing, in the spring of this year, that some dawn of success has encouraged salesmen to greater efforts, and tradesmen are beginning to realize the advantage of the commercial vehicle.

There are now in Paris some 550 motor vehicles of all sorts used to the carrying trade of the metropolis and outlying districts, of which it may be said that 100 belong to the various motor car factories themselves, being used for transporting stores of all description, repairing equipments and the deliveries of new cars and parts to customers. The various tire companies have long appreciated the advertising value of motor delivery, with their tires on the wheels, and accordingly twenty-five vans belong to the dozen or so firms engaged in the manufacture of tires. The retail houses for tires, of course, sell other motor car accessories, and they also find it very advantageous to have either a motor van or at least a motor cycle, or tricar, for deliveries. Perhaps they do not make so much use of their opportunities as they might, due, perhaps, to the fact that operating expenses in Paris are high and the trade in motor accessories is cut to an alarming extent, profits being scarce and low. The trade in new cars has also very much overshadowed the accessory trade, but this will equalize itself to a large extent, as more cars are sold.

The appearance in Paris streets of a large number of motor cabs within the past few months, together with the adoption of motor buses, by the company holding the monopoly, has given an impetus to the trade in commercial vehicles and sales throughout Paris at the present time



FLEET OF PANHARDS IN THE SERVICE OF THE GALLERIES LAFAYETTE

cannot be much less than seventy to 100 per month, including tricars and cycles for dispatch work. In June last there were 440 or 450 commercial vehicles in daily service, divided somewhat as follows: Lorries or heavy trucks, fifty; light trucks, sixty; heavy delivery carts, 100; light delivery vans, 150; tricars, eighty; mixed and unclassed, ten.

This is a very respectable number, in view of the fact that not many shops have as yet established large equipments, the Louvre and Galleries Lafayette being exceptions in this respect. The lorries and heavy trucks are used for builders' operations, transport of bricks, large quantities of material and excavation work. The Scott trains, consisting of a steam lorry and trailing trucks, have operated in the Paris streets for several years, and the system is the forerunner of several others of its class.

The majority of delivery vans in Paris, however, are devoted to the delivery of goods from stores and shops where heavy goods are the exception, although the car undoubtedly leaves the shop premises with a good load. It is a difficult matter to give exact figures of what the cost of upkeep of a car would be for any particular service. The following figures have been established from an average taken from a number of vans and firms, and some of the users of commercial vehicles find it a difficult matter to keep within the figure given. The fuel cost is high, the service supposed to be within Paris. The fuel and the wage items would be reduced by 30 or 40 per cent were the service entirely without the city limits. The quantity and value of goods delivered by firms situated outside Paris would also decrease in this event, and so the matter would perhaps be equalized. In any event the cost of a van generally works out between .8 and 1.5 per cent of the value of the goods delivered. Here is a standard, referred to above, and which only represents an average of the cases examined, about eighty in all:

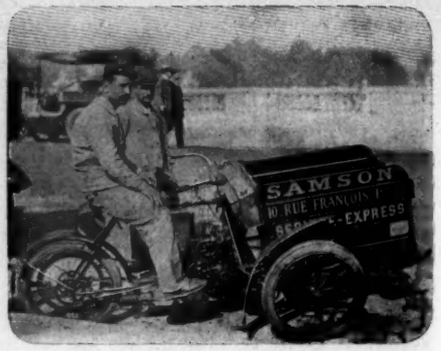
Twelve-horsepower van, weight unloaded 2,200 pounds, distance 60 miles per day of 9 hours, costs daily:

Five gallons of fuel	$2.60
Wages	3.00
Insurance and garage	.20
Repairs to engine and spares	.50
Tires	.60
Oil and grease	.20
Sundries	.05
Interest on capital outlay at 5 percent—$1,250	.20
	$7.35

Such a car is capable of delivering at least $500 worth of goods per day, the trade being of a light nature and of average value, such as wearing apparel, groceries and motor car accessories.

With regard to those shops which have a large number of motor wagons these figures would, of course, be largely modified, both in respect to capital outlay and upkeep. The advantage is of course on the side of the large user. The Louvre is one of the stores which have gone in for motor deliveries on a large scale. For several years there have been ten electric delivery vans doing duty within the city. These are equipped with the old Jenatzy electric motor and battery. The cars are heavy, the tires are solid rubber blocks and they are inefficient as to maintenance and duty. They travel slowly—6 to 7 miles per hour when loaded—and make an average of 30 miles per day. The only reason for their continued service is that a delivery service by gasoline wagons within Paris itself would not be less expensive than the upkeep of these electrics, in view of the high price of fuel, within the city. The Louvre shops have in addition some fifteen gasoline motor wagons, also some of the oldest motor deliveries within Paris, supplied at varying intervals. They are all of the Panhard make, one-cylinder, 8-horsepower, and do

THE CAVEAU SHOPS USE SIXTEEN GASOLINE DELIVERIES



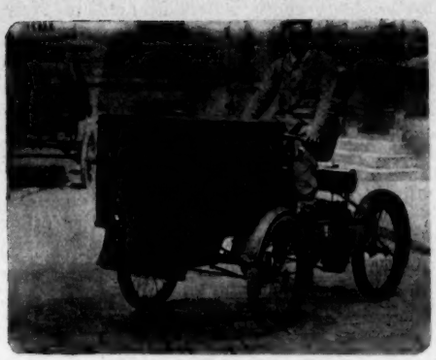
TRI-CAR DELIVERS TIRES

daily service outside Paris, merely entering the city to load in the early morning. Tires are changed twice a year. Speed averages 9 miles per hour. They cover 50 to 70 miles per day with a consumption of 8 gallons of fuel. The driver is paid $50 per month and the deliveryman $35. The hours are from 6:30 a. m. to 7 p. m., with 2 hours free at midday and a few stand-easy times. The Louvre shops still have over fifty horse-delivery vans and propose gradually replacing them by motor deliveries.

The Galleries Lafayette is a large and rapidly extending woman's haberdashery which delivers large quantities of very light, inexpensive material in Paris and suburbs. For its suburban work it started with eight Panhards, fitted with three-cylinder motors, supplied in 1905. Seven of these cars do a regular service and cover 75 to 90 miles per day with a consumption of 5½ gallons of fuel. They use some two sets of tires per year, the rear tires being changed to the front wheels, which are of the same size, whenever they begin to show signs of year. They run at good speed and can average 12 miles an hour. Their day's work is 10 hours, cleaning included, from which meal times are deducted. They carry $400 worth of goods per day.

The dry goods store and groceries owned by Messrs. Potin, one of the best of its class in France, have started two de Dion 10-horsepower two-cylinder cars. The deliveries are fairly heavy and some time is taken in actual delivering. They cover 45 to 50 miles per day with an expenditure of 3 gallons of fuel. The salaries of the two men employed amount to $70 per month, and they carry some $150 worth of goods per day. The tires last 6 months on the rear wheels and double this on the front wheels. The vans weigh loaded 2,500 pounds, including the weight of the men.

The piano makers Caveau have one or two electric vans. They are fitted with a forty-four cell battery and motors of the Société de Locomotion. They cover 40 to 50 miles per day and deliver three or four pianos daily. An electric car was chosen because of the nature of the deliveries. The driver also assists to deliver the pianos, and the two men are paid good



RAILROAD DISPACH TRI-CAR

wages in view of the character of the work and the arduous lifting of pianos, sometimes up several floors. These cars also transport the pianos from the works to the shops. The firm is very well satisfied with the combination it has bought.

The Parfumerie St. Martin, a well-known perfume manufacturer and retailer, has two light electrics running. The cars are run with an eye to advertisement and are gorgeously panelled and decorated. The view does not give the true appearance of the cars, as it will be observed that one of the panels reflects the opposite side of the street. In reality the panel bears a likeness of a noted French woman of the old court days. One set of tires is sufficient per year, and the van only runs in daylight, delivering small packets of perfume and soap, although the expensive nature of the goods causes a pretty big sum to be handed in at the end of each day. The van can run 40 miles with one charge at a speed of 7 miles per hour.

The Printemps, a large retail store and outfitter, has just started with a 7-10-horsepower, two-cylinder Panhard. The van does duty outside Paris and carries a very heavy load. Its weight loaded is over 2,200 pounds. It averages 75 to 90 miles per day with 8 gallons consumption. The driver and deliveryman earn $100 per month between them in an 11-hour day, with meal times allowed, and deliver daily some $200 worth of goods. Two sets of tires per year are used for front and rear wheels.

The prominent trunk makers, Messrs. Vuitton, who have given so much attention late years to motor car trunks, bags and kits, have two vans and a truck in service. The vans are 12-16-horsepower, two-cylinder Bayards, and capable of going 16 to 18 miles per hour. They cover 60 to 70 miles per day and consume from 4 to 5 gallons of fuel. Deliveries are light, and but $200 worth per day is carried. The driver also does most of the delivering and only carries a boy with him. Wages are therefore low, averaging $60 per month. The usual hours are maintained. These vans have been running 18 months and have never had a day off for repairs of any kind—in fact, the regularity of all the cars examined was held to be satisfactory and nothing but praise was heard for the performance of the motor delivery van. The truck of this firm, carrying the goods from works to shops, is also a Bayard 10-12-horsepower, two-cylinder car. The character of the work is heavier and the consumption is about the same as for the lighter vans; the speed is less.

The Hutchinson tire people have a 6-horsepower Panhard in service with one driver, who does the delivering also. He delivers fifty pairs of tires per day, and also stocks the store from the works close by. He consumes 2½ gallons per day and he stated that the van, which weighs 1,500 pounds, only uses one pair of tires per year. A couple of light little vans, fitted with Panhard 5-horsepower, two-cylinder motors, are used by the Lefevre biscuit people. The load is, of course, light and widely distributed. The van can cover 10 miles per hour and does 50 miles per day. One man is employed, and he consumes 2½ gallons of fuel per day. One set of tires per year is used, and the wagon delivers in Paris only.

The Compagnie Générale des Lampes a Incandescence uses some light spring vans. It has five vans in service, all fitted with Brasier two-cylinder 12-horsepower motors. They manage to cover 90 miles per day on 5 gallons of fuel and change tires throughout twice per year. Two men are employed for 10 hours daily, the cleaning being done at the garage by another staff. They deduct meal times, and draw $80 wages per month. They state that care must be exercised in driving in view of the character of the goods and the speed of the car is kept within very reasonable limits. In the service of delivering incandescent lamps there is a number of electric vehicles also employed, the vibrations of the engine motor not being thought good for the lamps in the car.

In addition to such firms as own their vans and have complete control, there is a large business done in hiring by firms that have preferred to wait for further developments of the motor car before investing their capital in one or several vans. The company doing the renting is not an enterprising one and its stock of vans, electric and gasoline, is neither choice nor varied. The reason of this lies rather in the fact that tradesmen are getting more confident in the matter of owning motor deliveries, and the hiring company finds its business at a standstill and prefers to use up its stock without further capital expenditure on new commercial vehicles.

The Orleans railway company has a quadricycle which is used in delivering dispatches and service orders within Paris. It is fitted with a 2¼-horsepower de Dion motor and covers 7 miles per hour, per day of 9 hours with a consumption of 3 quarts. The man is paid $40 per month. The work is light and the average weight carried is negligeable, consisting principally of letters. The Samson Tire Co. has four tricars, or three-wheelers, delivering tires. They are Austral cycles with 3½-horsepower Aster motors, consuming 3 quarts, and covering 40 to 45 miles per day. There is one man only per car and his wages amount to $35 per month. One set of tires per year is considered sufficient per machine, which is only used for the express delivery within Paris.

Of other commercial vehicles used in and around Paris may be mentioned the two lines of motor buses, some twenty buses in all, and the 100 buses promised for service before the end of the present year. These replace horse buses of the General Omnibus Co., which owns the monopoly for surface traction in Paris of a public nature and not running on lines. There are in addition 600 or 700 taximeter cabs in Paris, electric and gasoline, including 250 furnished by Renault, 8-horsepower each and all for hire by tariff.

FOR DELIVERING CAVEAU PIANOS IN PARIS

CAR DESIGNED FOR HUNTING AND CAMPING TRIPS

Poole in Chicago—Al Poole, who was Joe Tracy's mechanic in the Vanderbilt race, is in Chicago demonstrating Isotta Fraschini and Simplex cars for the Hamilton Automobile Co. of that city.

Saves His Car—With all else swept away by misfortune, George W. Clark, a machinist of Frankfort, Ind., is making a desperate effort to save his motor car above all else. In the United States circuit court at Indianapolis last week Clark filed a voluntary petition in bankruptcy, giving his assets at $1,863 and his liabilities at $2,950. According to the law he is entitled to personal property valued at $600, and he asked that his car be considered as personal property and spared to him out of the wreck.

School in Tarrytown—The Young Men's Christian Association at Tarrytown, N. Y., is to institute this winter a school for the benefit of its members. A series of lectures and other details of interest, including shop work and practical road training, will be begun. An important feature of the school will be a series of ten lectures on motor car construction, repairs and management, by H. A. Grant, M. E., of the Maxwell-Briscoe Motor Co. The work of the school will begin about November 15.

Santos Dumont Takes a Flyer—Santos Dumont has again proved that he is no bluffer. He glided along, aboard his aeroplane October 23, for some 70 yards at a height of 12 to 14 feet above the ground near Paris. The flight took place at Bagatelle, and the aeroplane started to run along rails laid down on the turf. The aeroplane has rather an ungainly aspect, with cubical box wings and a cubical tailpiece, the intermediate wasp body forming a connection and containing the cage of the operator. The Antoinnette motor weighs 180 pounds only and gives 52 horsepower with a propelling force of 330 pounds in still air. The total weight of the aeroplane is just over 300 pounds. He thus gains the Archdeacon cup, which was offered to the first person who could fly 25 meters without touching the ground. He will continue the trials.

Bisons After Show Hall—Secretary Dai H. Lewis of the Automobile Club of Buffalo has addressed a letter to the board of aldermen of that city, stating the club desires to rent the old Sixty-fifth regiment arsenal on Broadway for its annual show during the week of February 18-23. The request said the club had tried to get Convention hall for a week in March, but that it was unable to get a week until April, which would be too late. The club had been informed that the Sixty-fifth regiment would vacate the Broadway arsenal by February 1 and that the city would be free to do what it pleased with the building. The request was referred to the aldermanic committee on buildings and General Welch, commanding officer of the regiment. No answer has as yet been received by Secretary Lewis, but there is every likelihood that the aldermanic committee will act favorably.

Denies the Sanction—H. S. Gambel, secretary of the National Association of Engine and Boat Manufacturers, has written W. C. Anderson, manager of the motor boat show that is to be held in the Seventh regiment armory, Chicago, March 2-9, as follows: "In reply to yours of the 20th inst. I beg to call your attention to the following letter which has been sent members of our association: 'We beg to call the attention of all members of our association to the fact, that under date of October 11, 1906, Cochrane & Payne, managers of the Chicago motor boat show, state their show has been officially sanctioned by the committeemen of the National Association of Engine and Boat Manufacturers. This statement is misleading, as no action has been taken by your executive committee in reference to this or any show, other than the national motor boat show which is held in New York city at Madison Square garden February 19 to 26. Further, it was the sense of the members at the last annual meeting that this association sanction but one show for 1907.''

Tire Fillers in Paris—At the 1906 Paris salon the substitute for pneumatic tires will be rather to the fore. The tire filler called Elastes will be prominent. This substance is an artificial rubber and is pumped into the inner tubes, where it solidifies and takes the place of air, forming a sponge-like filling, which, it is said, does not do away with the resiliency of the tire.

Non-Motor Stop Run Success—The Palace Auto Co. of Kansas City made a 100-hour non-engine stop test last week, starting at 1 p. m. October 23. Demonstrations were made with the car while on the test, among them being a number of runs for the fire underwriters. No adjustments were necessary and the car finished in good shape. It is now in the Palace garage and is being used by the fire underwriters in getting owners of buildings to the scene of the conflagrations. The test was made with a 1907 model Oldsmobile touring car, which is handled by the company.

Indiana's Strength—Motor vehicle registrations in Indiana have amounted to $4,253 since the law went into effect in April, 1905. This is according to a report made public last week by Fred A. Sims, secretary of state. The report also states that out of an appropriation of $1,200 for the expenses of conducting the registration, that $1,105.30 remains unspent. The cost of a registration is $1 and does not have to be renewed. Where more than one car is owned the additional fee is 50 cents for each. More than 4,000 motor cars have been registered, but it is believed that at least 1,000 cars are running in the state without the state numbers, as there is no effort to enforce the law in small towns and in the rural districts.

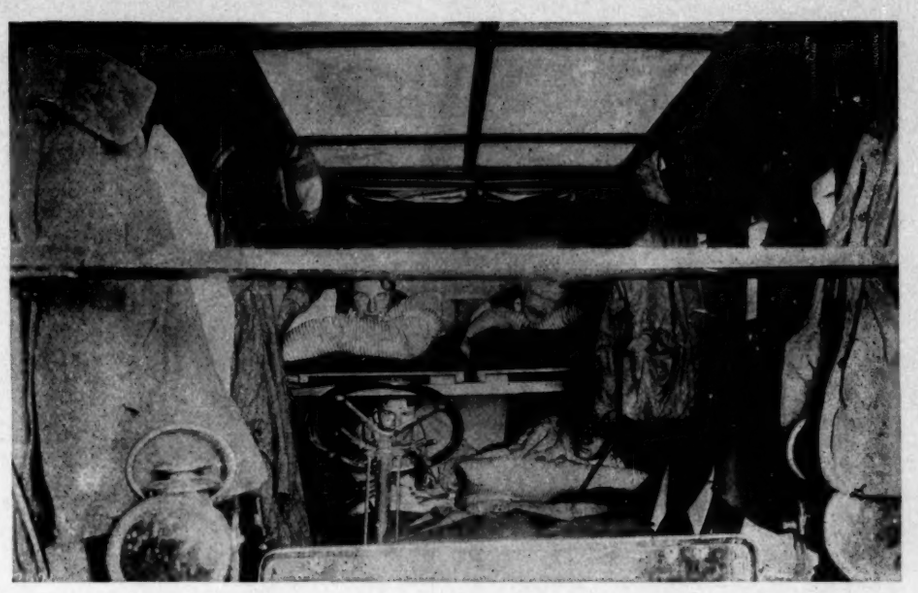
Quakers In a Show Stew—The question "Where shall our next show be held?" which has been worrying the management of the Philadelphia Automobile Trade Association for the past month, is apparently as far from being satisfactorily answered as it was when the matter was first taken up. The apparent impossibility of securing a suitable building, however, has not deterred the show committee from going ahead. Last week that body unanimously decided to hold a show, following immediately after the Madison Square garden exhibition. Since then the committee has been scouring the city in a motor car, inspecting the several possibilities; it will make a selection within the next fortnight, by a process of elimination, for it is conceded that there is no available structure in the city limits which will come within 40 per cent of the

space requirements. The two-building project is still kept in view, as the committee, by such an arrangement, can get much nearer the business center than if the largest hall in the city be secured.

Splitlog Drag Cheap to Operate—D. Ward King of Missouri, inventor of the splitlog drag which bears his name, is making a tour of that state and interesting the farmers in good roads. In a recent talk in Independence, Mo., he demonstrated that, while the former cost of maintaining dirt roads was $13 per mile, with the drag this could be reduced to an average of from $3 to $6 per mile.

Baltimore Wants a Show—Dealers and owners of Baltimore are now preparing plans for a show which they intend to hold as soon after January 1 as possible. The Automobile Club of Maryland is taking an interest in the proposed show. The first show, which was held last year under the exclusive auspices of the dealers, was a decided success and this has encouraged those interested to have the next one on a much larger scale. In order to do this it has been proposed that more effective work could be accomplished by the dealers and owners co-operating with each other. Whether this will be done depends on the recommendation of the committee which is making the preliminary arrangements.

All the Comforts of a Home—The Matheson Co., of New York, has established a Boston headquarters, which is to be managed entirely by Dr. Edward F. Gleason, who has arranged to take quarters on Boyleston street, which will be the distributing center of the Matheson product throughout the New England states. Subagencies will be established in all of the leading cities of New England. In connection with Dr. Gleason, Roy E. Faye will be the distributing agent for New England. Mr. Faye recently acquired a 40 horsepower Matheson, which he has converted into a hunting and camping machine. A unique top has been remodeled to meet the requirements of hunting trips and in the arrangement of the car distribution has been made for gun racks, quarters for dogs, eatables and other sundries. The front part of the top extends out from the hood to protect the occupants from rain while driving; to hang clothes on when the motorists retire and also that a large piece of canvas may be attached which when extended will reach 14 feet in front of the machine. When this is staked down and the side curtains hauled out and staken, a camp 27½ feet long is the result. This extra attachment is used only in wet weather, when a portable stove for cooking is under cover. The floor of the chassis is carpeted to keep out the dust and the cold. The bunks are made so that all four beds can be folded up and put out of the way like sleeping car berths. The bunks are made of hardwood strips held crosswise on the hickory rods which make the frame. Let down they rest on three removal crosspieces—one at each end and one in the middle. A pair of army blankets, thin rubber blanket and pillow complete the make-up.



INTERIOR OF RAY F. FAYE'S HUNTING CAR

Oriole Officers—The Automobile Club of Maryland elected the following officers at the annual meeting held last week: W. S. Belding, president; Richard J. Leupold, vice president; Ernest Knabe, Jr., treasurer, and Frank W. Darling, secretary. At that meeting the members expressed their intention of forming a mutual insurance company among themselves if the excessive charges now demanded of them are not reduced.

Intentions Are Good—The Sewickley Heights Good Roads Association, whose secretary is George W. Nicola, is getting to work in earnest to provide some new roads on the heights. The one wanted most is a motor driveway from the heights to Pittsburg, something that has been needed badly since the multimillionaires went to Sewickley Heights to erect their magnificent country homes. Work on this road is now in progress and it is hoped the entire distance will be macadamized early next year, so that it may be used by the public.

Indian Roads—One cause of the popularity of motor cars in India is the number and the extent of good roads, some of them hundreds of miles in length. A perfect highway runs from Bombay to Delhi, 900 miles, over which the motor car trials were made in 1904. From Peshawar, farther north at the frontier of Afghanistan, a fine road extends all the way to Calcutta, a distance of 1,500 miles. These and similar roads are known as the grand trunks, and were built and maintained as military highways before the advent of the railways. They are kept in a perfect state of repair. Other highways equally good are spread throughout the country, and in some of the states ruled by native princes particular care is given to the roads. One enterprising prince, the Maharajah of Gwalior, has caused a motorist's road guide of his state to be published, with maps, lists of rest houses, and other information.

Lost in Snow Storm—Kansas City motorists, supposed to have been lost in a snowstorm in western Kansas, have reached Denver after encountering many hardships. They were near Goodland, in the western part of the state, when the storm broke over them. For 2 days they drove through the blizzard, finally reaching Goodland. The party consisted of Mr. and Mrs. O. L. Van Laningham and their 5-year-old daughter, of Kansas City; Mrs. T. F. Savage, Donald Dunn, aged 3, both of Denver, and a driver.

Break up the Gang—The police of Buffalo, N. Y., have succeeded, temporarily, at least, in breaking up the gang of thieves that have been stealing motor cars from the wealthy residents of the west side. The thefts, it is alleged, were the work of youths, the leaders of whom are under arrest. When one boy was taken into custody he was charged by the police with the theft of the cars. The youngster confessed, it is said, and disclosed the name of his companions. This is expected to break up the gang.

Bumps for Kansas City—Glencoe's bumps are to have a rival in Kansas City and the explosions of torrid language will be shifted from Chicago to the town by the Big Muddy. At the request of some of the residents, several of the smooth macadam boulevards, not now defaced by any kind of obstruction, are to have crossings of cobblestones construction to jolt whomsoever they will. Only one boulevard is now disfigured by these monstrosities, but the system is to be rapidly extended. The crossings are about 4 feet wide, with about 3 inches crown, and is exceedingly uncomfortable to cross, either in a car or a horse-drawn vehicle.

BRIEF BUSINESS ANNOUNCEMENTS

Detroit—The Aerocar Co. has increased its capital stock from $400,000 to $750,000.

Detroit—The Belle Isle Auto Co. has been incorporated with a capital stock of $15,000.

Boston—L. B. Butler is now the manager of the local branch of the Cleveland Motor Car Co.

Columbus, O.—The Excelsior Spark Plug Co., of Cleveland, has increased its capital stock from $10,000 to $20,000.

Hartford, Conn.—The Pope Mfg. Co. has built a new drop shop, and new foundations for heavy drops have been put in.

Newark, N. J.—Jacob W. Mason has been appointed agent in Essex county for the Maxwell, and will shortly open a garage and salesroom near the business center of the city.

New Orleans, La.—Application has been made by Richard P. Bayley and Harry L. Stouts, stockholders and creditors of the Independent Auto Co., Ltd., for the appointment of C. L. Hartwell as receiver.

Boston—The White Sewing Machine Co. has purchased a plot of ground on Newberry street, near its garage at Newberry and Hartford streets, and will erect a building to be used exclusively for garage purposes.

Albany, N. Y.—The A. G. Southworth Co. has been incorporated with a capital stock of $100,000, to manufacture motors, engines, machinery, etc. The incorporators are John W. Sutton, Augustus G. and William R. Southworth.

Boston—Henry W. Savage has just leased the five-story building at 57-61 Stanhope street to Alvah M. Thompson for a term of years. The building will be remodeled and will be used as a garage and motor car salesroom.

Trenton, N. J.—The new electrical plant of the Richards garage has opened. It is situated in the rear of the gasoline department and has facilities for charging forty cars. The new managers are also installing a compressed air plant for filling motor car tires.

Los Angeles, Cal.—F. A. Bennett, who has been the manager of the Standard Motor Car Co., will leave for Portland, where he will take the agency for the Reo and Ford. L. Brentner, of Santa Barbara and Pasadena, is to take the local agency for the same cars.

Omaha, Neb.—A. L. Mohler, general manager of the Union Pacific railway, has announced that machinery has been bought for the manufacture of the McKean motor car. It will be installed in the shops now in course of erection here, and the manufacture of the motor cars for use on the Harriman branch lines will be begun on a large scale.

Utica, N. Y.—H. L. Fitchard has secured the local agency for the Maxwell.

Los Angeles, Cal.—The Capito Carriage Co. is to become the local agent for the Aerocar.

Columbus, O. -The American Auto Brass Co. has been incorporated with a capital stock of $20,000.

St. Joseph, Mich.—The Truscott Boat & Auto Supply Co. has been incorporated with a capital stock of $100,000.

Lansing, Mich.—Among other improvements which are under way, the Reo company is paving its half-mile testing track with brick.

Oil City, Pa.—The W. P. Lucas Co. is about to build a machine shop for the manufacture of motor cars, parts and machinery.

Nashville, Tenn.—The Hayes Carbureter Co. has been incorporated with a capital stock of $15,000, and will manufacture motor car attachments and articles for repairing them.

New Haven, Conn.—Daniel E. Knowles has purchased the building on Hallock avenue formerly occupied by the DeForest Wireless Telegraph Co. and will alter it into a garage.

New York—A new motor car supply house is to be opened at 1655 Broadway. It will be known as the Automobile Owners' Supply Depot, and will be managed by F. O. Buell.

Utica, N. Y.—The works of the Black Diamond Automobile Co., on Sunset avenue, have been sold by the sheriff under executions held by him. The property was bid in by E. E. Lee as attorney for A. J. Seaton.

Philadelphia, Pa.—Application will be made on November 12 for a charter for a concern to be known as the Preston Auto Works, a company which will buy, sell and deal in motor car and other vehicles, as well as all their parts and appurtenances.

Columbus, O.—It is probable that a new company will be organized here to manufacture an air-cooled gasoline engine invented by Frederick S. Harmer. Thomas Curtin and Edward Born, of the Curtin-Williams company, are backing Harmer, and will erect a factory to manufacture the engines.

St. Paul, Minn.—The Morris Steam Carriage Co., of Minneapolis, has been incorporated, with a capital stock of $50,000, by A. Dollenmayer, C. S. Norris, F. S. Martin and A. I. E. Weston. The Indestructible Tire Co., of Minneapolis, has also been incorporated, with a capital stock of $100,000, by DeWitt Nelson, A. Anderson, W. Bickers, M. N. Haglund and F. D. Larrabee, all of Minneapolis.

New York—H. C. Billings has secured the eastern agency for the Cartercar.

Cleveland, O.—The W. D. Strong Co. has changed its name to the Auto Equipment Co.

Boston—A two-story garage is in course of construction for the Havard Automobile Co., agent for the Matheson.

Brooklyn—The Bruns Automobile Co. of 31-33 Grant square, has secured the local agency for the Thomas Flyer.

Auburn, Ind.—A notice has been filed showing the increase of the capital stock of the Auburn Automobile Co. from $7,500 to $25,000.

Lansing, Mich.—The W. K. Prudden Co., manufacturer of motor car wheels, is erecting another large addition to its factory on May street.

Westboro, Mass.—The Barnard & Briggs Automobile Co. will occupy the old factory of the Woodville Shoe Co., as soon as alterations are completed.

San Francisco—A new garage for the Franklin is to be opened at Polk and Turk streets about the first of the month. D. C. McCord, of the Doyer Motor Car Co., is to be the manager of the concern.

Boston—H. M. Giffin, formerly with the Pope Mfg. Co., has entered into a partnership with Daniel Patterson, of Stanhope street, under the firm name of the Patterson Mfg. Co. It will do a general machine and repair business.

Elmwood, Conn.—The Whitlock Coil Pipe Co. has completed three new buildings and will occupy them in a short time. One building will be used for manufacturing coolers, one for coil work and one for big benders or large coil pipe work.

Minneapolis, Minn.—D. O'Connor, manager of the Otto Gas Engine Co., has sailed to Germany and hopes to arrange for the establishment here of a factory for the manufacture of motors and engines designed to use denatured alcohol as fuel.

Newark, N. J.—J. W. Mason, chairman of the racing committee of the New Jersey Motor & Automobile Club, is about to embark in the motor car business. He has secured the agency for the Maxwell and Stoddard-Dayton cars, and will start in business at once.

Albany, N. Y.—The chamber of commerce has been successful in securing another new industry for the city, and within a short time ground will be broken for a new factory in the north end. The company is the Avery Portable Lighting Co., and is to be a branch of the main concern in Milwaukee. The company manufactures portable gas tanks for lighting automobiles. The tanks will be shipped here in sections, but will be put together in the

city and will be charged here. The company will employ about twenty-five men at the start.

Pittsburg, Pa.—The Keystone Automobile Co. is building a new repair shop at Euclid avenue and Commerce street.

Omaha, Neb.—A tire repair shop has been opened at 2210 Farhan avenue under the management of Herbert Wheelock and Floyd Flynn.

New York—The Wald Individual Motor Co. has been incorporated, with a capital stock of $1,000, by Louis Nashley, David Wald and E. A. Leffron.

Newark, N. J.—The Essex Automobile Co. has been incorporated, with a capital stock of $5,000, to manufacture automobiles, by A. Somerville, C. E. Wyckoff and James M. Somerville.

New York—H. H. Fuller & Co. have leased to the Cantono Electric Tractor Garage Co. for a long term of years the store and basement in the new building at 137-139 East Twenty-fifth street and 138 East Twenty-sixth street.

Bloomfield, N. J.—A new tire repair shop has been opened in connection with the garage of C. W. Smith. It will be operated under the firm name of Smith & Batzle. Mr. Batzle, the new member of the concern, was formerly with the New York Steam Tire Repair Co.

Detroit—The Woven Wire Fence Co., which originally intended to locate in this city, has taken the old factory of the Church Mfg. Co., at Adrian, and is installing machinery to be used in the manufacture of motor cars. For the present the company will manufacture a light runabout, but later on will go into the making of a touring car and probably commercial trucks.

Pittsburg—D. Collins, the agent for the Columbia, is now located in his new garage on Seventh avenue.

Los Angeles, Cal.—The White company is about to open a garage at Coronado, and will take the garage near the hotel.

Pittsburg—The Logan Automobile Co., which recently moved into its new garage, has been appointed agent for the Pullman in this city.

Boston—The Hoffecker Speed and Mile Register Co. has been incorporated with a capital stock of $150,000 by L. E. Blanchard and A. Hoeffecker.

Chicago—The Lau-Pearson Motor Co. has been incorporated, with a capital stock of $25,000, to manufacture machinery. The incorporators are Max Lau, Charles P. Pearson and J. H. Behrens.

Cleveland, O.—Contracts have been awarded for a new garage to be built on East Nineteenth street for the Metropolitan Motor Car Co. It is to be a two-story brick building, with art stone trimmings, 130 by 130 feet.

Albany, N. Y.—The Acton Garage, Ins., has been incorporated with a capital stock of $10,000, to manufacture motors, engines, cars, carriages, etc., by William C. Strange, Robert G. Strange and William C. Strange, Jr., all of New York City.

Salt Lake City—Articles of incorporation of the Ogden Automobile Co. have been filed. The company will engage in a general motor car manufacturing business, repair shop and garage, also in the manufacture, repairing, buying, selling of vehicles and machinery of every kind the directors may desire. The officers of the concern are as follows: President, Albert Scowcroft; vice-president, John S. Corlow; secretary and treasurer, G. W. McCune.

Columbus, O.—The Monarch Motor Car Co., of Cleveland, has been incorporated with a capital stock of $25,000.

Albany, N. Y.—The Auto Armor Co. has been incorporated, with a capital stock of $100,000, to manufacture automobiles, carriages.

Cleveland, O.—The Durable Auto Parts Co., of Cleveland, has been incorporated, with a capital stock of $25,000, by H. S. Brady and H. J. Houston.

Pittsburg, Pa.—The Atlas Automobile Co. has taken the agency for another automobile. The latest addition to its list is the Chadwick, which it will handle in eastern Pennsylvania.

New York—The Continental garage has been incorporated with a capital stock of $50,000, to deal in real estate and also to deal in and store motor cars, by J. D. Tooker, G. T. Mortimer and T. Mirch, all of New York city.

Trenton, N. J.—The F. A. Seitz Co. of Newark, N. J., has been incorporated with a capital stock of $125,000, to manufacture engines, motor boats, motor vehicles and motor cycles. The incorporators are Albert and F. A. Seitz and George Wood.

San Francisco—A concern to be known as the Automobile Co. has been incorporated to engage in a general motor car and transportation business. The incorporators are J. F. Murdock, F. L. Bonn, W. W. Bracket and F. W. Keesling.

Norwich, N. Y.—Charles H. Latham has prepared plans for a garage and automobile store room to be built on Lackawanna avenue. Beardsley's machine shop will occupy one end of the building, and the rest will be given over to the motor car garage. The building will probably be ready by the middle of November.

RECENT INCORPORATIONS AND CAPITAL INCREASES

Chicago—Pietsch Automobile Co.; capital stock, $30,000; to manufacture motor cars, machinery, launches, etc. Incorporators, L. W. Pietsch, Edward A. Becker and Carlos J. Ward.

Chicago—R. M. Owen Co.; capital stock, $2,000; to manufacture and deal in motor cars. Incorporators, Otto C. and Raymond M. Owen and Louis C. Ollier.

New York—Miller Speedometer Co.; capital stock, $2,800; to manufacture appliances for motor cars, etc. Incorporators, Roger Johnson, Worcester, Mass.; Charles E. Miller, and Washington Brans.

New York—Dow Tire Co.; capital stock, $1,500,000; to manufacture vehicles, etc. Incorporators, Sidney R. Perry, James Gillen, Jr., and Daniel W. Troy, all of New York city.

Jefferson City, Mo.—The Hurck Motor & Cycle Co.; capital stock, $5,000. Incorporators, John Hurck, Alfred J. Carpenter, Maud Hurck and Maud H. Carpenter.

New Albany, Ind.—Albany Automobile Co., capital stock $10,000; incorporators, John L. Tulley, James B. McNeary and William L. Coy.

Boston—Stranahan Eldridge Co., capital stock $50,000, to deal in motor cars, motors, etc. Incorporators, W. E. Eldridge and F. D. Stranahan.

Boston—Bernard-Briggs Mfg. Co., capital stock $250,000; to make motor cars, machinery, etc.; incorporators, J. B. Briggs, A. H. Bernard and H. L. Palmer.

Boston—Suffolk Motor Co., capital stock $55,000, to manufacture motor cars, motor boats, etc. Incorporators, J. J. O'Brien, R. O. Currier and Frank C. White.

Melrose, Mass.—Walter E. Shepard Co., capital stock $10,000; to manufacture motor vehicles; incorporators, Walter L. and Chester B. Shepard, both of Melrose Heights.

Columbus, O.—Buckeye Auto Top & Trimming Co., capital stock $15,000; incorporators, W. W. Crafts, F. B. Evarts, W. J. and Mary A. Dickinson, and Theodore Revel.

Albany, N. Y.—New York Gasoline Engine Co., capital stock $10,000; to manufacture gasoline engines; incorporators, R. P. Flagg, M. C. Dunspaugh and M. M. Hall, of Hudson.

Albany, N. Y.—Autolyte Mfg. Co., capital stock $6,000; to manufacture machinery appliances, motor cars, garage, etc.; incorporators, W. H. Schleicher, of Flushing, L. I.; Thomas M. Debevoise, of Summit, N. J., and Edward S. Paine, Brooklyn.

Boston, Mass.—New England Automobile Equipment Co.; capital stock, $10,000; to manufacture motor cars, power boats, etc. Incorporators, Henry M. Wing and John B. Sullivan, Jr.

Albany, N. Y.—Jeneick Motor Mfg. Co.; capital stock, $50,000; to manufacture motor engines, etc. Incorporators, G. E. Mertz, L. Horton, of Portchester; R. A. Young, Bronxville.

Oakland, Cal.—Interurban Motor Express Co.; capital stock, $1,000,000. Incorporators, John R. Crawford, Edwin T. Cooper, George N. Nash, L. R. Well and Louis C. Drapeau.

Passaic, N. J.—Victor Auto Tire Repair Co.; capital stock, $50,000; to make and repair tires. Incorporators, Victor E. Bullen, Paterson and Allen M. Chambers, Pompton Lake.

Cleveland, O.—Royal Motor Car Co.; capital stock, $500,000. Incorporators, H. A. Kelley, Horace Andrews, Gustav Den Steiner, W. B. Stewart and J. Tyler.

New York—A. L. Kull Automobile Co.; capital stock, $50,000; to manufacture motor cars. Incorporators, D. Hamilton, H. A. Lehman and A. L. Kull, all of 1659 Broadway, New York city.

Albany, N. Y.—Camp Bros. Auto Touring Co.; capital stock, $50,000; to conduct a touring company. Incorporators, Frank L. and A. Roy Camp, of New York city, and Victor F. Camp, of Bayshore, L. I.

Cleveland, O.—Monarch Motor Car Co.; capital stock, $25,000. Directors, Edwin G. Guthery, W. B. Brown, B. C. Guthery, James I. Gemmill and E. G. Gessner.

Jersey City, N. J.—C. G. V. Import Co.; capital stock, $150,000; to import French machines. Incorporators, Gaston Rheims, H. G. Pelletier and Charles A. Conlin.

Camden, N. J.—Guarantee Auto Supply Co. Camden; capital stock, $20,000. Incorporators, Joseph and Margaret Baumgartner and Joseph Baumgartner, Jr.

Jersey City—Dock Gas Engine Co.; capital stock, $400,000; to manufacture engines, motors and vehicles of all kinds. Incorporators, John R. Turner, H. O. Coughlin and B. Stafford Mantz, all of 15 Exchange place.

CURRENT AUTOMOBILE PATENTS

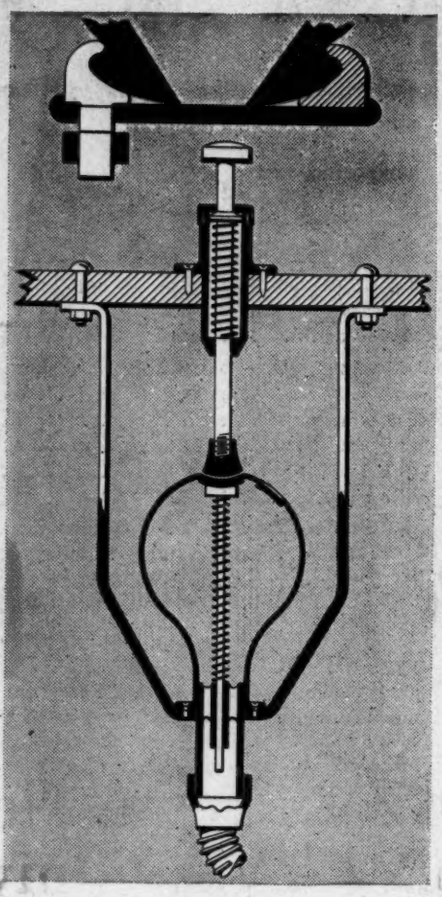
Motor Support—No. 834,283, dated October 30; to M. Fischer, Zurich, Switz.—This patent refers to the combination with a motor car frame of a motor crankcase having two lateral, or side arms for supporting it. These arms rest in stirrups which are adjustably supported on the frame pieces. The motor arms being a loose fit in these stirrups, it permits the motor case to be swung around the crankshaft when making any repairs, thus saving the dismounting of the entire engine.

Motor Lubrication—No. 834,498, dated October 30; to T. L. Sturtevant, Quincy, and T. J. Sturtevant, Wellesley, Mass.—The proper oil level is maintained within the crankcase of this motor by a float device, much the same as the float of a carbureter. To aid in oiling the motor crankshaft, this shaft is made in two parts, one for the two forward cylinders and the other for the other two, the rear end of the one shaft and the front end of the latter carrying large integral flanges which are bolted together, forming the complete shaft. The crankshaft webs are bored out and in them are inserted oil-receiving chambers from which the oil flows through holes bored in the shaft to the crankpin bearings.

Foot Signal Horn—No. 834,562, dated October 30; to M. A. Cook and J. Hafner, New York city—The signal horn is of the bulb variety, with the bulb carried vertically beneath the footboard of the car. In the car floor is a press button, with its lower end resting on the top of the horn bulb, so a quick pressure on the button compresses the bulb much the same as when the hand squeezes it. To insure the full distending of the bulb a vertical rod within it, terminating in an enlarged head which bears upon the top of the inside of the bulb and held there by a coil spring, is required. The bulb is generally of the accepted rubber type, differing in that the top center is depressed where it receives the bottom of the plunger push rod.

Floating Axle—No. 834,619, dated October 30; to L. E. H. Hoffman, Cleveland, O.—This patent relates to the floating rear axle so favorably known in connection with shaft-driven motor cars. The axle housing is in three parts, one for the differential gear, receiving the two tubings enclosing the axle drive shafts. These axle tubings are continued through the wheel hub and on them are carried the bearings supporting the car wheels. To convey the drive of the axle shafts to the road wheels, the shafts are continued beyond the axle tubings, carrying locking caps that engage with the hub of the wheel. With this construction the axle shaft can be drawn out of the tubing after the hub cap of the wheel is taken off. The entire car weight comes on the axle tubing and none on the drive shafts.

BANKER'S UNIVERSAL RIM

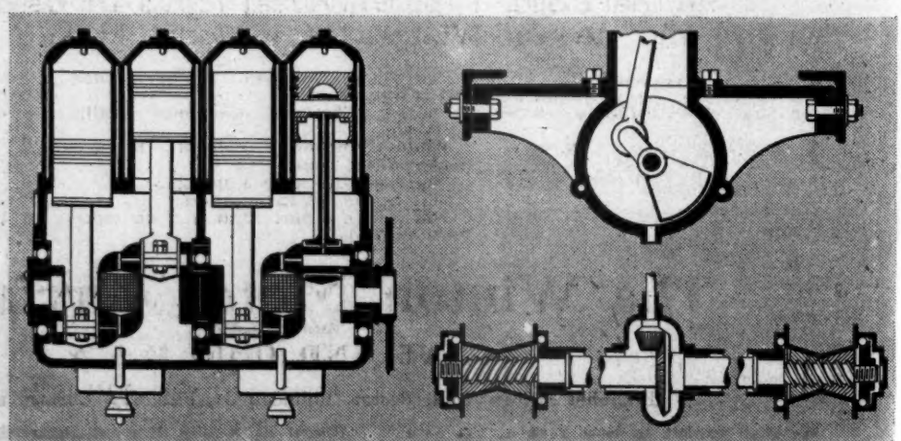


COCK AND HAFNER'S FOOT SIGNAL

Motor Car Wind Shield—No. 834,503, dated October 30; to A. L. Banker, Pittsburg, Pa.—The shield, the glass in which is carried in a rectangular brass frame, has the latter hinged at its base to the top of the car dash. Supporting it in its vertical position are two rods with a universal joint connection to the sides of the glass frame and having telescopic union with two other rods rising angularly from the top of the car frame beside the motor. Set screws in the larger of the telescopic rods retain the glass shield at any angle desired. The same inventor has another patent bearing number of 834,504, relating to the method of attaching a clincher tire to a flat rim. The rim has on each side a low shoulder acting as a retainer for the removable clincher rims which rest on the rim. The removable flanges are split and have the ends turned towards the hub. These radial ends enter slots in the wheel rim and are held in position by locking collars which prevent either a radial or circumferential movement. The removable flanges are reversible, serving for either clincher rims or tires of round cross section.

Rear Axle Without Differential—No. 834,574, dated October 30; to C. U. Haynes, Rome, N. Y.—The back axle is a solid drive shaft from end to end and rigidly secured at its center is a bevel gear, with which meshes a bevel pinion on the rear end of the drive shaft of the car. On one end of the axle, within the wheel hub, is cut a heavy right hand thread and on the opposite end a heavy left hand thread. On each of these threads are two internally threaded cone pieces and the inside of the wheel hub is made with a pair of opposing cone surfaces against which these cones on the axle threads can engage. In traveling ahead one cone on each end of the axle engages with one of the cone surfaces within the wheel hub, giving positive drive ahead. Should the car turn a corner, causing one wheel to travel faster than the other, the cone within the faster wheel will automatically release, allowing the other cone to do the work and the wheel to run idle; but as soon as the car gets on the straight again both wheels take up the drive. In reversing the other cone surfaces within each hub are used.

FISCHER'S MOTOR SUPPORT



STURTEVANT'S LUBRICATING DEVICE

HOFFMAN'S REAR AXLE CONSTRUCTION